V800 TABLE OF CONTENTS

INTRODUCTION

Congratulations on your new V800! Designed for demanding athletes and sports, the V800 with GPS, Smart Coaching and 24/7 activity measurement helps you reach your peak performance. Get an instant overview of your training straight after your session with Flow app, and plan and analyze your training in detail with the Flow web service.

This user manual helps you get started with your new training companion. To check the video tutorials and the latest version of this user manual, go to www.polar.com/en/support/v800.



V800

Monitor your training data, such as heart rate, speed, distance and route, and even the smallest activities in your everyday life.

H7 HEART RATE SENSOR*

See live, accurate heart rate on your V800 during training, also when swimming. Your heart rate is information used to analyze how your session went.

USB CABLE

Use the custom USB cable to charge the battery, and to sync data between your V800 and the Polar Flow web service via FlowSync software.

POLAR FLOW APP

View your training data at a glance after every session. Flow app syncs your training data wirelessly to the Polar Flow web service. Download it from the App Store.

POLAR FLOWSYNC SOFTWARE

Flowsync software allows you to sync data between your V800 and the Flow web service on your computer via the USB cable. Go to www.flow.polar.com/start to download and install Polar FlowSync software.

POLAR FLOW WEB SERVICE

Plan and analyze every detail of your training, customize your device and learn more about your performance at polar.com/flow.

**Only included in V800 with heart rate sensor sets. If you bought a set that does not include a heart rate sensor, not to worry, you can always buy one later.*

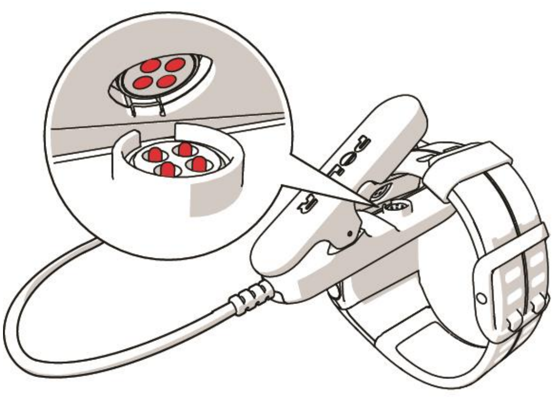
GET STARTED

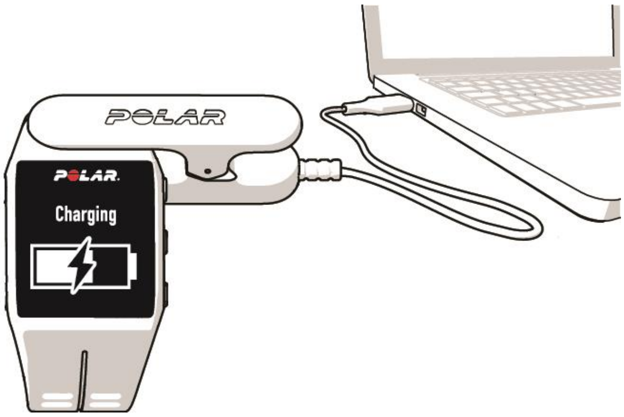
CHARGE THE BATTERY

After unboxing your V800, the first thing you need to do is charge the battery. Let your V800 fully charge before taking it into use for the first time.

The V800 has an internal, rechargeable battery. Use the custom USB cable included in the product set to charge it via the USB port on your computer. You can also charge the battery via a wall outlet. When charging via a wall outlet use a USB power adapter (not included in the product set). If you use an AC adapter, make sure that the adapter is marked with "output 5Vdc 0.5A - 2A max". Only use an AC adapter which is adequately safety approved (marked with "LPS", "Limited Power Supply" or "UL listed").

1. Snap the custom USB connector onto your V800.
2. Plug the other end of the cable into your computer’s USB port.
3. **Charging** appears on the display.
4. When V800 is fully charged, **Charging completed** is displayed.





Make sure the USB connector snaps firmly into place, and that the Polar logo on the USB connector and V800 are facing the same direction.

BATTERY OPERATING TIME

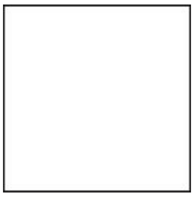
In continuous use	In time mode with daily activity monitoring
With normal GPS recording and heart rate: up to 13 hours	
With GPS power save mode and heart rate: up to 50 hours	Approximately 30 days
With GPS recording off and heart rate on: up to 100 h	

Battery operating time depends on many factors, such as the temperature of the environment in which you use your training device, the features and sensors you use, and battery aging. The operating time is significantly reduced in temperatures well below freezing. Wearing the training device under your overcoat helps to keep it warmer and to increase the operating time.

LOW BATTERY NOTIFICATIONS

	**Battery low. Charge** The battery charge is low. It is recommended to charge V800.

	**Charge before training** The charge is too low for recording a training session. A new training session cannot be started before charging V800.

	When the display is blank, the battery is empty and V800 has gone to sleep mode. Charge your V800. If the battery is totally drained, it may take a while for the charging animation to appear on the display.

BASIC SETTINGS

To make sure you get to enjoy your V800 at its best, please go to flow.polar.com/start where simple instructions will guide you through setting up your V800, downloading the latest firmware and taking the Flow web service into use. **If you already have a Polar Account, you don't need to register a new account in the Flow web service**. You can sign in with the same username and password you are using e.g. with polarpersonaltrainer.com.

After charging your V800, it's time to enter the basic settings. To get the most accurate and personal training data, it's important that you're precise with physical settings like your training background, age, weight and sex, as they have an effect on calorie calculation, your training load as well as other Smart Coaching features.

Choose language is displayed. Press start to choose **English**.

If you choose a language other than **English**, you will be guided to go to polar.com/flow to get the language. When taking V800 into use with the Flow web service, you can add another language during the setup. To add another language later, go to polar.com/flow and sign in. Click your name/profile photo in the upper right corner, choose Products, and then V800 Settings. Choose the language you want from the list, and sync with your V800. The languages you can choose are: **Dansk**, **Deutsch**, **English**, **Español**, **Français**, **Italiano**, 日本語, **Nederlands**, **Norsk**, **Português**, 简体中文, **Suomi** or **Svenska**.

If you choose English, **Set up your Polar V800** is displayed. Set the following data, and confirm each selection with the **Start** button. If at any point you want to return and change a setting, press **Back** until you reach the setting you want to change.

1. **Time format** : Choose **12 h** or **24 h**. With **12 h**, select **AM** or **PM**. Then set the local time.
2. **Date** : Enter the current date.
3. **Units** : Choose metric **(kg, cm, °C)** or imperial **(lb, ft,°F)** units.

4. **Weight** : Enter your weight.
5. **Height** : Enter your height.
6. **Date of birth** : Enter your date of birth.
7. **Sex** : Select **Male** or **Female**.
8. **Training background** : **Occasional (0-1 h/week)**, **Regular (1-3 h/week)**, **Frequent (3-5 h/week)**, **Heavy (5-8 h/week)**, **Semi-Pro (8-12 h/week)**, **Pro (12+ h/week)**. For more information on training background, See "Physical Settings" on page 28
9. **Ready to go!** is displayed when you're done with the settings, and V800 goes to time view.

BUTTON FUNCTIONS, GESTURES AND MENU STRUCTURE

V800 has five buttons that have different functionalities depending on the situation of use. In addition to these, V800 also includes taps gestures. They're performed by tapping the display of your V800, and allow you to view information on the display or perform functions during training.

See the tables below to find out what functionalities the buttons have in different modes.

BUTTON FUNCTIONS



TIME VIEW AND MENU

LIGHT	BACK	START	UP	DOWN	TAP
• Illuminate the display • Press and hold to enter **Quick menu**	• Exit the menu • Return to the previous level • Leave settings unchanged • Cancel selections • Press and hold to return to time view from menu • Press and hold to sync with Flow app in time view	• Confirm selections • Enter pre-training mode • Confirm the selection shown on the display	• Move through selection lists • Adjust a selected value • Press and hold to change the watch face	• Move through selection lists • Adjust a selected value	• Check your recovery status in Time View

PRE-TRAINING MODE

LIGHT	BACK	START	UP	DOWN	TAP
• Press and hold to enter sport profile settings	• Return to time view	• Start a training session	• Move through sports list	• Move through sports list	

DURING TRAINING

LIGHT	BACK	START	UP	DOWN	TAP
• Illuminate the display	• Pause training by pressing once	• Press and hold to set zone	• Change training view	• Change training view	• Take a lap/Change training view/

LIGHT	BACK	START	UP	DOWN	TAP
• Press and hold to enter Training **Quick Menu**	• Press and hold for 3 seconds to stop training recording • Enter transition mode in multisport training	lock on/off • Continue training recording when paused			Activate backlight

TAP GESTURES

The tap gesture allows you to view information on the display or perform functions during training. With the tap gesture, you can view your recovery status in time mode or take a lap, change the training view or activate the backlight during training. The gestures are performed by firmly tapping the display. Just gently touching it is not enough. The display can be tapped with two fingers using a reasonable amount of force, the glass will not break with a solid tap.

The sport specific tap sensitivity setting allows you to adjust the sensitivity to best suit different sports. To change the sport specific tap sensitivity (how hard you have to tap during a session), go to **Settings > Sport profiles**, and under the sport you want to edit choose **Sport specific tap sensitivity**. To change the time mode tap sensitivity (how hard you have to tap to view your recovery status), go to **Settings > General settings > Time mode tap sensitivity**. Try out different sensitivities to find out which works best for you in different sports, and which setting is best for use in time mode. The sensitivity can be set to **Light tap, Normal tap, Strong tap, Very strong tap** or **Off**.

The sport specific tap sensitivity can also be changed during a session from **Quick menu**. Press and hold LIGHT and choose **Sport specific tap sensitivity**.

ⓘ You can customize the tap functions in your Sport Profile settings in the Polar Flow web service.

HEARTTOUCH

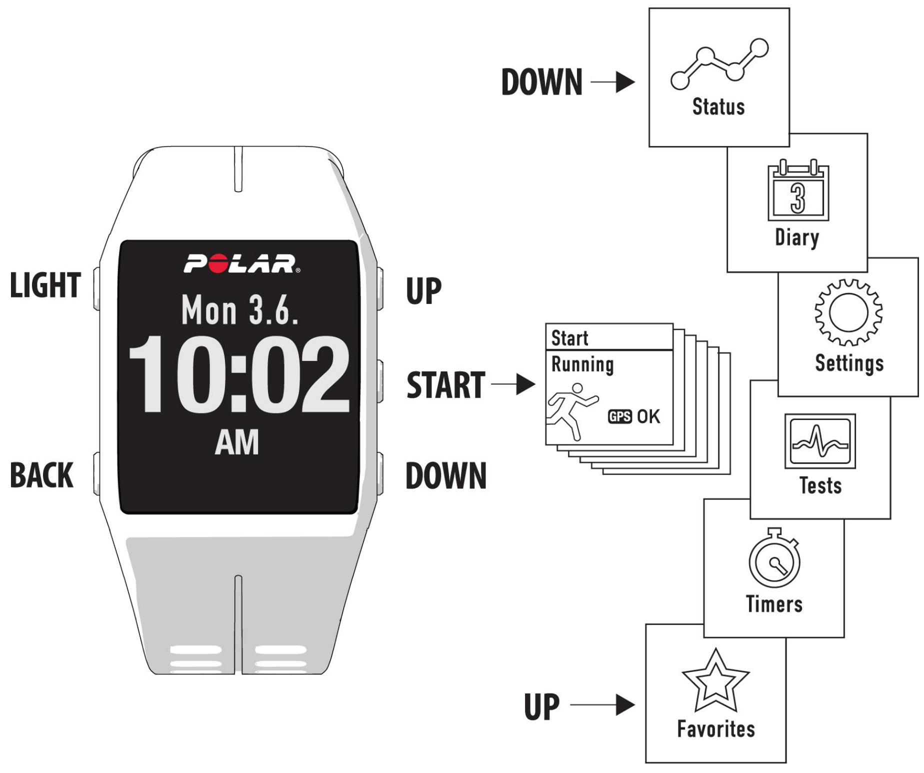
Use the HeartTouch function to easily show the time, activate backlight or show your previous lap. Just touch your heart rate sensor with your V800. No buttons needed. You can edit the HeartTouch functions in the Sport Profile Settings in the Flow web service. For more information, See "Sport Profiles" on page 74

MENU STRUCTURE

Enter and browse through the menu by pressing UP or DOWN. Confirm selections with the START button, and return with the BACK button.

In the menu you'll find:

- Favorites
- Timers
- Tests
- Settings
- Status
- Diary



FAVORITES

In Favorites you'll find:

- Race Pace, routes and training targets that you have saved as favorites in the Flow web service.

For more information ,See "Race Pace" on page 56

TIMERS

In Timers you'll find:

- Stopwatch
- Countdown timer
- Interval timer

TESTS

In **Tests** you'll find:

- **Orthostatic test**
- **Fitness test**
- **Jump test**
- **RR recording**

For more information See "Features" on page 54

SETTINGS

In **Settings** you can edit:

- **Sport profiles**
- **Physical settings**
- **General settings**
- **Watch settings**

For more information See "Settings" on page 26

STATUS

In **Status** you'll find:

- **Recovery status**: Shows your recovery level. For more information, See "Recovery Status " on page 58
- **Daily activity**: Shows how many calories you have burnt through training, activity and BMR (Basal metabolic rate: the minimum metabolic activity required to maintain life).
- **Week summaries**: Shows summaries of your training weeks. The summary includes duration, distance and time spent in heart rate zones.

For more information, See "Status" on page 52

DIARY

In **Diary** you'll see the current week, past four weeks and next four weeks. Select a day to see all the sessions from that day, and the training summary of each session and the tests you have done.You can also see your planned training sessions.

COMPATIBLE SENSORS

Enhance your training experience, and achieve a more complete understanding of your performance with *Bluetooth*® Smart sensors.

POLAR STRIDE SENSOR *BLUETOOTH*® SMART

The Stride Sensor *Bluetooth*® Smart is for runners who want to improve their technique and performance. It allows you to see speed and distance information, whether you are running on a treadmill or on the muddiest trail.

- Measures each stride you take to show running speed and distance
- Helps improve your running technique by showing your running cadence and stride length
- Allows you to perform the Jump Test
- Small sensor fits firmly onto your shoelaces
- Shock and water resistant, to handle even the most demanding runs

POLAR SPEED SENSOR *BLUETOOTH*® SMART

There are a range of factors that can affect your cycling speed. Obviously fitness is one of them, however, weather conditions and the varying gradients of the road play a huge part too. The most advanced way of measuring how these factors affect your performance speed is with the aerodynamic speed sensor.

- Measures your current, average and maximum speeds
- Track your average speed to see your progress and performance improve
- Light yet tough, and easy to attach

POLAR CADENCE SENSOR *BLUETOOTH*® SMART

The most practical way of measuring your cycling session is with our advanced wireless cadence sensor. It measures your real-time, average and maximum cycling cadence as revolutions per minute so you can compare the technique of your ride against previous rides.

- Improves your cycling technique and identifies your optimal cadence
- Interference-free cadence data lets you evaluate your individual performance
- Designed to be aerodynamic and light

POLAR LOOK KÉO POWER

Truly develop your cycling performance and technique. Perfect for ambitious cyclists, this system uses Bluetooth® Smart technology and consumes only a little energy.

- Gives instant feedback by measuring accurate power output in watts
- Displays your left and right balance as well as the current and average cadence
- Shows how you use force against the pedal with the force vector feature
- Easy to set up and switch between bikes

PAIRING

Sensors compatible with V800 use *Bluetooth* Smart ® wireless technology. Before taking a new heart rate sensor, running sensor, cycling sensor or mobile device (smartphone, tablet) into use, it has to be paired with your V800. Pairing only takes a few seconds, and ensures that your V800 receives signals from your sensors and devices only, and allows disturbance-free training in a group. Before entering an event or race, make sure that you do the pairing at home to prevent interference due to data transmission.

PAIR A HEART RATE SENSOR WITH V800

There are two ways to pair a heart rate sensor with your V800:

1. Wear your heart rate sensor, and press START in time view to enter pre-training mode.
2. **To pair, touch your sensor with V800 is displayed**, touch your heart rate sensor with V800, and wait for it to be found.
3. The device ID **Pair Polar H7 xxxxxxxx** is displayed. Choose **Yes**.
4. **Pairing completed** is shown when you are done.

or

1. Go to **General Settings > Pair and sync > Pair new device** and press START.
2. V800 starts searching for your heart rate sensor.
3. Once the heart rate sensor is found, the device ID **Polar H7 xxxxxxxx** is displayed.
4. Press START, **Pairing** is displayed.
5. **Pairing completed** is displayed when you are done.

ⓘ When using a H7 heart rate sensor, V800 may detect your heart rate via GymLink transmission before you have paired it. Make sure you have paired your heart rate sensor before starting training. GymLink transmission is optimized to be used in swimming, therefore your heart rate is shown in gray in other sport profiles if you haven't paired your heart rate sensor via Bluetooth®.

PAIR A STRIDE, SPEED OR CADENCE SENSOR WITH V800

Before pairing a stride sensor, cadence sensor or speed sensor, make sure they have been correctly installed. For more information on installing the sensors see their user manuals.

There are two ways to pair a sensor with your V800:

1. Press START in time view to enter pre-training mode.
2. V800 starts searching for your sensor.
   - Stride sensor: Touch your stride sensor with V800, and wait for it to be found.
   - Cadence sensor: Rotate the crank a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
   - Speed sensor: Rotate the wheel a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
3. The device ID **Pair Polar RUN/CAD/SPD xxxxxxxx** is displayed. Choose **Yes**.
4. **Pairing completed** is shown when you are done.

or

1. Go to **General Settings > Pair and sync > Pair new device** and press START.
2. V800 starts searching for your sensor.
3. Once the sensor is found, the device ID **Polar RUN/CAD/SPD xxxxxxxx** is displayed.
4. Press START, **Pairing** is displayed.
5. **Pairing completed** is displayed when you are done.

For more information on pairing specific sensors, See "Sensors" on page 79

PAIR A MOBILE DEVICE WITH V800

Before pairing a mobile device, create a Polar account if you do not already have one, and download Flow app from the App Store. Make sure you have also downloaded and installed FlowSync software onto your computer from flow.polar.com/start , and registered your V800 in the Flow web service.

Before trying to pair, make sure your mobile device has *Bluetooth* turned on, and airplane mode/flight mode is not turned on.

To pair a mobile device:

1. On your mobile device, open Flow app and sign in with your Polar account.
2. Wait for the Connect product view to appear on your mobile device (**Waiting for V800**) is displayed.
3. In V800, go to **Settings > General settings > Pair and sync > Pair new device** and press START
4. Once your device is found, the device ID **Polar mobile xxxxxxxx** is displayed on V800.
5. Press START, **Connecting to device** is displayed, followed by **Connecting to app**.
6. Accept the Bluetooth pairing request on your mobile device and type in the pin code shown on your

V800.

7. **Pairing completed** is displayed when you are done.

DELETE A PAIRING

To delete a pairing with a sensor or mobile device:

1. Go to **Settings > General settings > Pair and sync > Paired devices** and press START.
2. Choose the device you want to remove from the list and press START.
3. **Delete pairing?** is displayed, choose **Yes** and press START.
4. **Pairing deleted** is displayed when you are done.

SYNCING

You can transfer data from your V800 via the USB cable with FlowSync software or wirelessly via Bluetooth Smart® with the Polar Flow app. To be able sync data between your V800 and the Flow web service and app, you need to have a Polar account and FlowSync software. Go to flow.polar.com/start, and create your Polar account in the Polar Flow web service and download and install FlowSync software onto your PC. Download Flow app onto your mobile from the App Store.

Remember to sync and keep your data up-to-date between your V800, the web service and the mobile app wherever you are.

SYNC WITH FLOW APP

Before syncing make sure:

- You have a Polar account and Flow app
- You have registered your V800 in the Flow web service and synced data via FlowSync software at least once.
- Your mobile device has Bluetooth turned on, and airplane mode/flight mode is not turned on.
- You have paired your V800 with your mobile. For more information , See "Pairing" on page 22

There are two ways to sync your data:

1. Sign into Flow app and press and hold the BACK button on your V800.
2. **Connecting to device** is displayed, followed by **Connecting to app**.
3. **Syncing completed** is displayed when you are done.

or

1. Sign into Flow app and go to **Settings > General settings > Pair and sync > Sync data** and press the START button on your V800.
2. **Connecting to device** is displayed, followed by **Connecting to app**.
3. **Syncing completed** is displayed when you are done.

When you sync your V800 with the Flow app, your training and activity data are also synced automatically via an internet connection to the Flow web service.

For support and more information about using Polar Flow app, go to www.polar.com/en/support/Flow_app

SYNC WITH FLOW WEB SERVICE VIA FLOWSYNC

To sync data with the Flow web service you need FlowSync software. Go to flow.polar.com/start, and download and install it before trying to sync.

1. Plug the USB cable into your computer and snap the connector onto your V800. Make sure FlowSync software is running.
2. The FlowSync window opens on your computer, and the syncing starts.
3. Completed is displayed when you are done.

Every time you plug in your V800 to your computer, the Polar FlowSync software will transfer your data to the Polar Flow web service and sync any settings you may have changed. If the syncing does not automatically start, start FlowSync from the desktop icon (Windows) or from the applications folder (Mac OS X). Every time a firmware update is available, FlowSync will notify you, and request you to install it.

If you change settings in the Flow web service while your V800 is plugged into your computer, press the synchronize button on FlowSync to transfer to the settings to your V800.

For support and more information about using the Flow web service, go to www.polar.com/en/support/flow

For support and more information about using FlowSync software, go to www.polar.com/en/support/FlowSync

SETTINGS

SPORT PROFILE SETTINGS

Adjust the sport profile settings to best suit your training needs. In V800 you can edit certain sport profiles settings in **Settings > Sport profiles**. You can, for example, set the GPS on or off in different sports.

ⓘ A wider range of customization options is available in the Flow web service. For more information, See "Sport Profiles" on page 74

There are seven sport profiles shown in the pre-training mode by default. In the Flow web service you can add new sports to your list, and sync them to your V800. You can have a maximum of 20 sports on your V800 at a time. The number of sport profiles in the Flow web service is not limited.

By default, in the **Sport profiles** you'll find:

- **Running**
- **Cycling**
- **Swimming**
- **Other outdoor**
- **Other indoor**
- **Triathlon**
- **Free multisport**

If you have edited your sport profiles in the Flow web service before your first training session,and synced them to your V800, the sport profile list will contain the edited sport profiles.

SETTINGS

To view or modify sport profile settings, go to **Settings > Sport profiles** and choose the profile you want to edit. You can also access sport profile settings from pre-training mode by pressing and holding LIGHT. In sport profiles, that include multiple sports (e.g. triathlon and biathlon) the settings for each sport can be modified. For example, in triathlon you can modify the settings for swimming, cycling and running.

- **Training sounds**: Choose **Off**, **Soft**, **Loud** or **Very loud**.
- **Vibration feedback**: Choose **On** or **Off**. When set on, V800 vibrates, for example, when you start or stop a training session, GPS signal is found or you reach a training target.
- **Heart rate settings**: **Heart rate view**: Choose **Beats per minute (bpm)**, **% of maximum** or **% of Hr reserve**. **Check HR zone limits**: Check the limits for each heart rate zone. **HR visible to other device**: Choose **On** or **Off**. If you choose **On**, other compatible devices (e.g. gym equipment) can detect your heart rate.
- **Bike power settings**: Choose **Power view**, **Power, rolling average**, **Set FTP value** or **Check power zone limits**. Set how you want to view your power, how frequently data points of your power are recorded, set your FTP value or view your power zone limits.

Bike power settings are visible only if Kéo Power has been paired.

- **GPS recording**: Choose **Off**, **Normal** or **Power save, long session**.
- **Sport specific tap sensitivity**: Choose **Off**, **Light tap**, **Normal tap**, **Strong tap** or **Very strong tap**. Set how hard you have to tap the display when using tap gestures.
- **Stride sensor**: Choose **Calibration** or **Choose sensor for speed**. In **Calibration**, choose **Automatic** or **Manual**. In **Choose sensor for speed**, set the source for speed data: **Stride sensor** or **GPS**. For more information on Stride sensor calibration, See "Polar Stride Sensor Bluetooth® Smart" on page 79

Stride sensor is visible only if a stride sensor has been paired.

- **Calibrate altitude**:Set the correct altitude. It is recommended to always manually calibrate altitude when you know your current altitude.

ⓘ Altitude calibration is only visible when accessing sport profile settings from pre-training mode.

- **Speed View**: Choose **km/h** (kilometers per hour) or **min/km**(minutes per kilometer). If you have chosen imperial units, choose **mph** (miles per hour) or **min/mi** (minutes per mile).
- **Automatic pause**: Choose **On** or **Off**. If you set the **automatic pause On**, your session is automatically paused when you stop moving.

ⓘ GPS recording must be set to normal to use automatic pause.

- **Automatic lap**: Choose **Off**, **Lap distance**, **Lap duration** or **Location- based**. If you choose **Lap distance**, set the distance after which each lap is taken. If you choose **Lap duration**, set the duration after each lap is taken. If you choose **Location- based**, a lap will always be taken at a specific location. (the starting point of your session or POI you have marked during your session)

ⓘ GPS recording must be set to normal to use automatic lap.

PHYSICAL SETTINGS

To view and edit your physical settings, go to **Settings > Physical settings**. It is important that you are precise with the physical settings, especially when setting your weight, height, date of birth and sex, as they have an impact on the accuracy of the measuring values, such as the heart rate zone limits and calorie expenditure.

In **Physical settings** you'll find:

- **Weight**
- **Height**
- **Date of birth**
- **Sex**
- **Training background**
- **Maximum heart rate**
- **Resting heart rate**
- **VO2**$_{max}$

WEIGHT

Set your weight in kilograms (kg) or pounds (lbs).

HEIGHT

Set your height in centimeters (metric) or in feet and inches (imperial).

DATE OF BIRTH

Set your birthday. The order in which the date settings are depends on which time and date format you have chosen (24h: day - month - year / 12h: month - day - year).

SEX

Select **Male** or **Female**.

TRAINING BACKGROUND

Training background is an assessment of your long-term physical activity level. Select the alternative that best describes the overall amount and intensity of your physical activity during the past three months.

- **Occasional (0-1h/week)**: You do not participate regularly in programmed recreational sport or heavy physical activity, e.g. you walk only for pleasure or exercise hard enough to cause heavy breathing or perspiration only occasionally.
- **Regular (1-3h/week)**: You participate regularly in recreational sports, e.g. you run 5-10 km or 3-6 miles per week or spend 1-3 hours per week in comparable physical activity, or your work requires modest physical activity.
- **Frequent (3-5h/week)**: You participate at least 3 times a week in heavy physical exercise, e.g. you run 20-50 km/12-31 miles per week or spend 3-5 hours per week in comparable physical activity.
- **Heavy (5-8h/week)**: You participate in heavy physical exercise at least 5 times a week, and you may sometimes take part in mass sports events.
- **Semi-pro (8-12h/week)**: You participate in heavy physical exercise almost daily, and you exercise to improve performance for competitive purposes.
- **Pro (>12h/week)**: You are an endurance athlete. You participate in heavy physical exercise to improve your performance for competitive purposes.

MAXIMUM HEART RATE

Set your maximum heart rate, if you know your current maximum heart rate value. Your age-predicted maximum heart rate value (220-age) is displayed as a default setting when you set this value for the first time.

HR_{max} is used to estimate energy expenditure. HR_{max} is the highest number of heartbeats per minute during maximum physical exertion.The most accurate method for determining your individual HR_{max} is to perform a maximal exercise stress test in a laboratory. HR_{max} is also crucial when determining training intensity. It is individual and depends on age and hereditary factors.

RESTING HEART RATE

Set your resting heart rate.

A person’s resting heart rate (HR_{rest}) is the lowest number of heart beats per minute (bpm) when fully relaxed and without distractions. Age, fitness level, genetics, health status and gender affect HR_{rest}. HR_{rest} is decreased as the result of cardiovascular conditioning. A normal value for an adult is 60-80 bpm, but for top athletes it can even be below 40 bpm.

VO_{2MAX}

Set your $VO2_{max}$.

A clear link exists between maximal oxygen consumption ($VO2_{max}$) of the body and cardiorespiratory fitness because oxygen delivery to tissues is dependent on lung and heart function. $VO2_{max}$ (maximal oxygen uptake, maximal aerobic power) is the maximal rate at which oxygen can be used by the body during maximal exercise; it is related directly to the maximal capacity of the heart to deliver blood to the muscles. $VO2_{max}$ can be measured or predicted by fitness tests (e.g. maximal exercise tests, submaximal exercise tests, Polar Fitness Test). $VO2_{max}$ is a good index of cardiorespiratory fitness and a good predictor of performance capability in endurance events such as distance running, cycling, cross-country skiing, and swimming.

$VO2_{max}$ can be expressed either as milliliters per minute (ml/min = ml ■ min-1) or this value can be divided by the person’s body weight in kilograms (ml/kg/min = ml ■ kg-1■ min-1).

GENERAL SETTINGS

To view and edit your general settings, go to **Settings > General settings**

In **General settings** you'll find:

- **Pair and sync**
- **Flight mode**
- **Button sounds**
- **Button lock**
- **Time mode tap sensitivity**
- **Units**
- **Language**
- **Training view color**
- **About your product**

PAIR AND SYNC

- **Pair new device**: Pair heart rate sensors, running sensors, cycling sensors or mobile devices with your V800.
- **Paired devices**: View all the devices you have paired with your V800. These can include heart rate sensors, running sensors, cycling sensors and mobile devices.
- **Sync Data**: Sync data with Flow app. **Sync data** becomes visible after you have paired your V800 with a mobile device.

FLIGHT MODE

Choose **On** or **Off**

Flight mode cuts off all wireless communication from the device. You can still use it to collect activity, but you cannott use it in training sessions with a heart rate sensor nor sync your data to the Polar Flow mobile app because *Bluetooth*® Smart is disabled.

BUTTON SOUNDS

Set the button sounds **On** or **Off**.

ⓘ Please note that this selection does not modify training sounds. Training sounds are modified in sport profile settings. For more information see, See "Sport Profile Settings" on page 26

BUTTON LOCK

Choose **Manual lock** or **Automatic lock**.In **Manual lock** you can lock the buttons by manually from the **Quick menu**. In **Automatic Lock** the button lock automatically goes on after 60 seconds.

ⓘ The tap function can be used when button lock is on.

TIME MODE TAP SENSITIVITY

Choose **Off**, **Light tap**, **Normal tap**, **Strong tap** or **Very strong tap**. Set how hard you have to tap the display when using tap gestures.

UNITS

Choose metric **(kg, cm, °C)** or imperial **(lb, ft,°F)**. Set the units used to measure weight, height, distance, speed and temperature.

LANGUAGE

By default, V800 only comes in English. Other languages can added in the Flow web service. To add another language, go to polar.com/flow and sign in. Click your name/profile photo in the upper right corner, choose

Products, and then V800 **Settings**. Choose the language you want from the list, and sync with your V800. The languages you can choose are: **Dansk**, **Deutsch**, **English**, **Español**, **Français**, **Italiano**, 日本語, **Nederlands**, **Norsk**, **Português**, 简体中文, **Suomi** or **Svenska**.

TRAINING VIEW COLOR

Choose **Dark** or **Light**. Change the display color of your training view. When **Light** is chosen, the training view has a light background with dark numbers and letters. When **Dark** is chosen, the training view has a dark background with light numbers and letters.

ABOUT YOUR PRODUCT

Check the device ID of your V800, as well as the firmware version and HW model.

WATCH SETTINGS

To view and edit your watch settings, go to **Settings > Watch settings**

In **Watch settings** you'll find:

- **Alarm**
- **Time**
- **Date**
- **Week's starting day**
- **Watch face**

ALARM

Set alarm repetition: **Off, Once, Monday to Friday** or **Every day**. If you choose **Once, Monday to Friday** or **Every day**, also set the time for the alarm.

ⓘ When the alarm is set on, a clock icon is displayed in the upper right corner in the time view.

TIME

Set the time format: **24 h** or **12 h**.Then set the time of day.

ⓘ When syncing with the Flow app and web service, the time of day is automatically updated from the service.

DATE

Set the date. Also set the **Date format**, you can choose **mm/dd/yyyy, dd/mm/yyyy, yyyy/mm/dd, dd-mm-yyyy, yyyy-mm-dd, dd.mm.yyyy** or **yyyy.mm.dd**.

ⓘ When syncing with the Flow app and web service, the date is automatically updated from the service.

WEEK'S STARTING DAY

Choose the starting day of each week. Choose **Monday, Saturday** or **Sunday**.

ⓘ When syncing with the Flow app and web service, the week's starting day is automatically updated from the service.

WATCH FACE

Choose the watch face: **Date and time**, **Your name and time**, **Analog** or **Big**.

QUICK MENU

Certain settings can be modified with a shortcut button. You can enter the **Quick menu** by pressing and holding LIGHT in time view or training view. **Quick menu** will contain different settings depending on which view you enter it from.

TIME VIEW

In time view, press and hold LIGHT to enter **Quick menu**. In the time view **Quick menu** you can:

- **Lock buttons**: Press START to lock buttons. To unlock, press and hold LIGHT.
- **Alarm**: Set **Off, Once, Monday to Friday** or **Every day**.If you choose **Once, Monday to Friday** or **Every day**, also set the time for the alarm.
- **Flight mode**: Set **On** or **Off**.

TRAINING VIEW

In training view, press and hold LIGHT to enter **Quick menu**. In the training view**Quick menu** you can:

- **Lock buttons**: Press START to lock buttons. To unlock, press and hold LIGHT.

ⓘ Please note that tap gestures can be performed when the buttons are locked.

- **Set backlight**: Set **On** or **Off**.
- **Sport specific tap sensitivity**: Choose **Off**, **Light tap**, **Normal tap**, **Strong tap** or **Very strong tap**. Set how hard you have to tap the display when using tap gestures in the sport profile you are currently using.
- **Search sensor**: Search for a heart rate sensor, running or cycling sensor.
- **Stride sensor**: Choose **Calibration** or **Choose sensor for speed**. In **Calibration**, choose **Automatic** or **Manual**. In **Choose sensor for speed**, set the source for speed data: **Stride sensor** or **GPS**.
- **Calibrate altitude** : Set the correct altitude. It is recommended to always manually calibrate altitude when you know your current altitude.
- **Countdown timer**: Set the countdown timer on. The countdown timer is shown in its own training view when set on.
- **Interval timer**: Create time and/or distance based interval timers to precisely time work and recovery phases in your interval training sessions.
- **Current location info**: This selection is only available if GPS is set on for the sport profile.

- By selecting **Set location guide on**, **Set target point** is displayed. Choose **Starting point (default)** . Location guide is used by the Back to start feature, that guides to your starting point or a POI.

ⓘ You can change the target point by returning to the **Quick menu**, and choosing **Change target point**.

When **Location guide** is set on, **Save new POI** is added to the **Quick menu**.

- Press START when **Save new POI** is displayed to save your current location as a point of interest.

FIRMWARE UPDATE

The firmware of your V800 can be updated. Any time a new firmware version is available, FlowSync will notify you when connecting V800 to your computer with the USB cable. The firmware updates are downloaded via the USB cable and FlowSync software. Flow app will also notify you when new firmware is available.

Firmware updates are performed to improve the functionality of your V800. To make sure your V800 always works at its best, we recommend that you update the firmware every time a new version available. Updates can include improvements to existing features, completely new features or bug fixes, for example.

HOW TO UPDATE FIRMWARE

To update the firmware of your V800, you must have:

- A Flow web service account
- Installed FlowSync software
- Registered your V800 in the Flow web service

Go to flow.polar.com/start, and create your Polar account in the Polar Flow web service and download and install FlowSync software onto your PC.

To update the firmware:

1. Snap the custom USB connector onto your V800, and plug the other end of the cable into your PC.
2. FlowSync starts syncing your data.
3. After syncing, you are asked to update the firmware.
4. Choose Yes. New firmware is installed (this may take some time), and V800 reboots.

Before updating the firmware, the most important data from your V800 is synced to the Flow web service. Therefore you will not lose important data when updating.

RESET V800

Like any electronic device, V800 is recommended to be switched off every now and then. If you experience problems with your V800, try resetting it. Reset your V800 by pressing and holding the UP, DOWN, BACK and LIGHT buttons simultaneously for five seconds until the Polar animation is shown on the display. This is called a soft reset, and it will not erase your data.

POLAR FLOW WEB SERVICE AND APP

POLAR FLOW APP

Polar Flow app allows you to see an instant visual interpretation of your training data offline straight after your session. It lets you easily access your training targets and view test results. Flow app is the easiest way to sync your training data from your V800 with the Flow web service.

With Flow app you'll see:

- Route view on a map
- Training Load and recovery time
- Training Benefit
- Start time and duration of your session
- Average and maximum speed/pace, distance, running index
- Average and maximum heart rate, cumulative heart rate zones
- Calories and fat burn % of calories
- Maximum altitude, ascent and descent
- Lap details
- Average and maximum cadence (running and cycling)

To start using the Flow app, download it from the App Store onto your mobile. Flow App is compatible with iPhone 4S and later. For support and more information about using Polar Flow app, go to www.polar.com/en/support/Flow_app

To see your training data in Flow app, you must sync your V800 with it after your session. For information on syncing V800 with Flow app, See "Syncing" on page 24

POLAR FLOW WEB SERVICE

The Polar Flow web service allows you to plan and analyze every detail of your training and learn more about your performance. Set up and customize V800 to perfectly fit your training needs by adding sports and tailoring settings and training views. Follow and visually analyze your progress, create training targets,and add them and your favorite routes to your favorites.

With the Flow web service you can:

- Analyze all of your training details with visual graphs and a route view
- Compare specific data with others like laps or speed vs. heart rate
- Analyze sports specific data in multisport training
- See how your training load affects your cumulative recovery status
- See long-term progress by following the trends and details which matter to you the most
- Follow your progress with sports specific weekly or monthly reports
- Share highlights with your followers
- Relive your and other users' sessions afterward

To start using the Flow web service, go to flow.polar.com/start, and create your Polar account if you do not already have one. Download and install FlowSync software from the same place to allow you to sync data between V800 and Flow web service. Also get the Flow app for your mobile for instant analysis and data sync to the web service.

Feed

In **Feed** you can see what you've been up to lately, plus you can see your friends' activities and comments.

Explore

In **Explore** you can discover training sessions and routes by browsing the map, add them to your favorites and sync them to your V800. See public training sessions that other users have shared, and relive your own or other people's routes and see where the highlights happened.

Diary

In **Diary** you can see your scheduled training sessions, as well as review past results. Information shown includes: training plans in day, week or month view, individual sessions, tests and weekly summaries.

Progress

In **Progress** you can follow your development with reports. Reports are a handy way to follow your progress in training over longer periods. In week, month and year reports you can choose the sport for the report. In custom period, you can choose both the period and the sport. Choose the time period and sport for report from the drop down lists, and press the wheel icon to choose what data you want to view in the report graph.

For support and more information about using the Flow web service, go to, www.polar.com/en/support/flow

TRAINING TARGETS

Create detailed training targets in the Flow web service and sync them to your V800 via Flowsync software or Flow app. During training you can easily follow the guidance on your device.

- **Quick Target**: Fill in one value. Choose a duration, distance or calorie target.
- **Race Pace Target**: Challenge yourself and try to hit your target time for a set distance – for example run 10 km in 45 minutes – or aim at keeping a steady pace. Fill in two of the values and you get the third one automatically.
- **Phased Target**: You can split your training into phases and create a different target duration or distance and intensity for each of them. This one is for e.g. creating an interval training session, and adding proper warmup and cool down phases to it.
- **Favorites**: Create a target, and add it to **Favorites** to easily access it every time want to perform it again.

Remember to sync your training targets to your V800 from the Flow web service via FlowSync or Flow App. If you do not sync them, they are only visible in your Flow web service Diary or Favorites list.

CREATE A TRAINING TARGET

1. Go to **Diary**, and click **Add** > **Training target**.
2. In the **Add training target** view, choose **Quick**, **Race Pace**, **Phased** or **Favorite**.

Quick Target

1. Choose **Quick**
2. Choose **Sport**, enter **Target name** (required), **Date** (optional) and **Time**(optional) and any **Notes** (optional) you want to add.
3. Fill in one of the following values: duration, distance or calories . You can only fill in one of the values.
4. Click **Save** to add the target to your **Diary**, or the favorites icon ☆ to add it to your **Favorites**.

Race Pace Target

1. Choose **Race Pace**
2. Choose **Sport**, enter **Target name** (required), **Date** (optional) and **Time**(optional) and any **Notes** (optional) you want to add.
3. Fill in two of the following values: duration, distance or Race Pace.
4. Click **Save** to add the target to your **Diary**, or the favorites icon ☆ to add it to your **Favorites**.

Phased target

1. Choose **Phased**
2. Choose **Sport**, enter **Target name** (required), **Date** (optional) and **Time**(optional) and any **Notes** (optional) you want to add.
3. Add phases to your target. Choose distance or duration for each phase, manual or automatic next

phase start and the intensity.

4. Click **Save** to add the target to your **Diary**, or the favorites icon ☆ to add it to your **Favorites**.

Favorites

If you have created a target, and added it to your favorites you can use it as a scheduled target.

1. Choose **Favorites**. Your training target favorites are shown.
2. Click the favorite you want to use a template for your target.
3. Choose **Sport**, enter **Target name** (required), **Date** (optional) and **Time**(optional) and any **Notes** (optional) you want to add.
4. You can edit the target if you wish, or leave it as it is.
5. Click **Update changes** to save changes made to the favorite. Click **Add to diary** to add the target to your **Diary** without updating the favorite.

After syncing your training targets to your V800, you can find:

- Scheduled training targets in **Diary** (current week and the next 4 weeks)
- Training targets listed as favorites in **Favorites**

When starting your session, access your target from **Diary** or **Favorites**.

For information on starting a training target session, see See "Start a Training Session" on page 42

FAVORITES

In **Favorites**, you can store and manage your favorite routes and training targets in the Flow web service. Your V800 can have a maximum of 20 favorites at a time. The number of favorites in the Flow web service is not limited. If you have over 20 favorites in the Flow web service, the first 20 in the list are transferred to your V800 when syncing.

You can change the order of your favorites by dragging and dropping them. Choose the favorite you want to move and drag it into the place you want to put it in the list.

Add a Route to Favorites

Add a route recorded by you or another user to your favorites, and after syncing it your V800 you can follow it with route guidance.

1. When viewing a route click the favorites icon ☆ in the lower right corner of the map.
2. Name the route, and choose **Save**.
3. The route is added to your favorites

Add a Training Target to Favorites:

1. Create a training target.
2. Click the favorites icon ☆ in the lower right corner of the page.
3. The target is added to your favorites

or

1. Choose an existing target from your **Diary**.
2. Click the favorites icon ☆ in the lower right corner of the page.
3. The target is added to your favorites.

Edit a Favorite

1. Click the favorites icon ☆ in the upper right corner next to your name. All your favorite routes and training targets are shown.
2. Choose the favorite you want to edit:

- **Routes:** The name of a route can be changed, but the route on the map cannot be edited.
- **Training targets:** Change the name of the target, or choose edit in the lower right corner to modify the target.

Remove a favorite

Click the delete icon in upper right corner of the route or training target to remove it from the favorites list.

TRAINING

WEAR HEART RATE SENSOR

Use our heart rate sensors when training to get the most out of Polar's unique Smart Coaching features. Heart rate data gives you an insight into your physical condition and how your body responds to training. This will help you fine-tune your training plans and reach your peak performance.

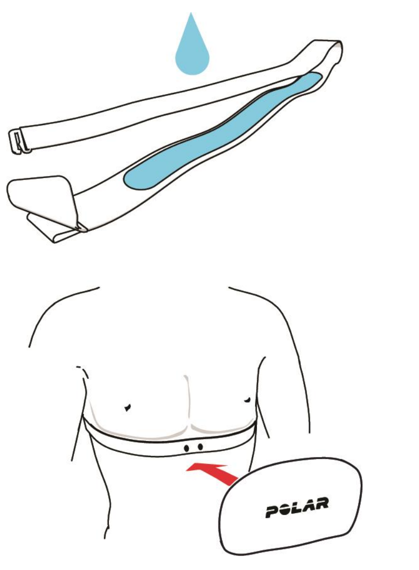
A heart rate monitor gives you a physiological window, through accurate heart rate measurement, into your body's response to the moment-to-moment changes in your physical activity. Although there are many subjective clues as to how your body is doing during exercise (perceived exertion, breathing rate, physical sensations), none is as reliable as measuring heart rate. It is objective and is affected by both internal and external factors - meaning you will have a dependable measure of your physical state.

PAIR HEART RATE SENSOR

1. Wear your heart rate sensor, and press START in time view to enter pre-training mode.
2. **To pair, touch your sensor with V800 is displayed**, touch your heart rate sensor with V800 , then wait for it to be found.
3. The device ID **Pair Polar H7 xxxxxxxx** is displayed. Choose **Yes**.
4. **Pairing completed** is shown when you are done.

You can also pair a new sensor in **Settings > General settings > Pair and sync > Pair new device**. For more information on pairing, See "Pairing" on page 22

ⓘ When using a H7 heart rate sensor, V800 may detect your heart rate via GymLink transmission before you have paired it. Make sure you have paired your heart rate sensor before starting training. GymLink transmission is optimized to be used in swimming, therefore your heart rate is shown in gray in other sport profiles if you haven't paired your heart rate sensor via Bluetooth®.

	1. Moisten the electrode areas of the strap. 2. Attach the connector to the strap. 3. Adjust the strap length to fit tightly but comfortably. Tie the strap around your chest, just below the chest muscles, and attach the hook to the other end of the strap. 4. Check that the moist electrode areas are firmly against your skin and that the Polar logo of the connector is in a central and upright position.

ⓘ Detach the connector from the strap, and rinse the strap under running water after every training session. Sweat and moisture may keep the heart rate sensor activated, so also remember to wipe it dry.

START A TRAINING SESSION

Wear the heart rate sensor, and make sure you have paired it and any other compatible sensors with your V800.

	1. Begin by pressing the START button to enter pre-training mode.

Choose the sport you want use

	2. Choose the sport profile you want to use. To change the sport profile settings before starting your session (in pre-training mode), press and hold LIGHT to enter the **Quick Menu**. To return to the pre-training mode, press BACK.

Wait for GPS and optional sensors to be found

	3. If you have activated the GPS function and/or paired an optional sensor*,V800 will automatically start searching for the signals. ⓘ Stay in the pre-training mode until V800 has found the sensor signals and your heart rate. OK is shown next to the sensor icon when it is found.
	4. Stand still and hold the position until V800 has found the satellite signals. The percentage value shown next to the GPS icon indicates when the GPS is ready. When it reaches 100 %, Ok is displayed, and you are ready to go. V800 uses SiRFInstantFix™ satellite prediction technology to acquire a fast satellite fix. It accurately predicts satellite positions for up to three days allowing you to find satellite signals in 5 -10 seconds. To catch the GPS satellite signals, go outdoors and away from tall buildings and trees. Wear V800 with the face upwards on your wrist. Keep it in a horizontal position in front of you and away from your chest. Keep your arm stationary and raised above the level of your chest during the search ⓘ For best GPS performance, wear V800 on your wrist with the display facing up. Due to the location of the GPS antenna on the V800, it is not recommended to wear it with the display on the underside of your wrist. When wearing it on the handlebars of a bike, make sure the display is facing up. 5. When V800 has found all the signals, press START. **Recording started** is displayed and you can start training. During training recording you can change the training view with UP/DOWN. To change settings without stopping the training recording, press and hold LIGHT to enter **Quick menu**. For more information, See "Quick Menu" on page 33

*Optional sensors include Polar Stride Sensor *Bluetooth*® Smart, Polar Cadence Sensor *Bluetooth*® Smart and Polar Speed Sensor *Bluetooth*® Smart.

START A MULTISPORT TRAINING SESSION

Before starting a multisport training session, make sure that you have set the sport profile settings for each of the sports that you are going to use for the training session. For more information, See "Sport Profiles" on page 74

	1. Begin by pressing the START button. 2. Choose **Triathlon**, **Free multisport** or any other multisport profile (can be added in the Flow web service). 3. Once V800 has found all the signals, press START. **Recording started** is displayed and you can start training. 4. To change the sport press **BACK** to go to transition mode. 5. Choose your next sport, and press **START** (your transition time is shown) and continue training.

For more information on multisport, See "Multisport" on page 77

START A SESSION WITH TRAINING TARGET

1. Begin by going to **Diary** or **Favorites**.

2. In **Diary**, choose the day the target is scheduled and press START, and then choose the target from the list and press **START**. Any notes you have added to the target are displayed.

   or

   In **Favorites**, choose the target from the list and press START. Any notes you have added to the target are displayed.

3. Press START to enter the pre-training mode, and choose the sport profile you want to use.

4. When V800 has found all the signals, press START. **Recording started** is displayed and you can start training.

For more information on training targets, See "Training Targets" on page 37

START A SESSION WITH ROUTE GUIDANCE

1. Begin by going to **Favorites**.
2. Choose the route from the list and press START.
3. Press START to enter the pre-training mode, and choose the sport profile you want to use.
4. When V800 has found all the signals, press START. **Recording started** is displayed and you can start training.

For more information on route guidance, See "Route Guidance " on page 56

START A SESSION WITH RACE PACE

1. Begin by going to **Favorites**.
2. Choose **Race pace**, and press START. Set the target distance km/m and target time.
3. Press START to enter the pre-training mode, and choose the sport profile you want to use.
4. When V800 has found all the signals, press START. **Recording started** is displayed and you can start training.

For more information on Race Pace, See "Race Pace" on page 56

START A SESSION WITH INTERVAL TIMER

You can set one repeating or two alternating time and/or distance based timers for guiding your work and recovery phases in interval training.

1. Begin by going to **Timers** > **Interval timer**. Choose **Set timer(s)** to create new timers.
2. Choose **Time-based** or **Distance-based**:
   - **Time-based**: Define minutes and seconds for the timer and press START.
   - **Distance-based**: Set the distance for the timer and press START.
3. **Set another timer?** is shown. To set another timer, choose **Yes**.
4. When completed, choose **Start X.XX km / XX:XX** and press START to enter the pre-training mode, and then choose the sport profile you want to use.
5. When V800 has found all the signals, press START. **Recording started** is displayed and you can start training.

FUNCTIONS DURING TRAINING

SWITCH SPORT DURING A MULTISPORT SESSION

Press BACK, and choose the sport you want to switch to. Confirm your selection with **START**.

TAKE A LAP

Press START to record a lap. You can also record a lap by tapping the display if you have set it in the sport profile settings in the Flow web service. Laps can also be taken automatically. In sport profile settings, set **Automatic lap** to **Lap distance**, **Lap duration** or **Location- based**. If you choose **Lap distance**, set the distance after which each lap is taken. If you choose **Lap duration**, set the duration after each lap is taken. If you choose **Location- based**, a lap will always be taken at a specific location. (the starting point of your session or POI you have marked during your session)

LOCK A HEART RATE ZONE

Press and hold START to lock the heart rate zone you are currently in. To lock/unlock the zone, press and hold START. If your heart rate goes outside the locked zone, you will be notified with audio and vibration feedback.

CHANGE SPORT SPECIFIC TAP SENSITIVITY

Press and hold LIGHT. **Quick menu** is displayed. Choose **Sport specific tap sensitivity** from the list and choose **Light tap, Normal tap, Strong tap, Very strong tap** or **Off** to customize the sensitivity to best suit your current sport.

CHANGE PHASE DURING A PHASED SESSION

Press and hold LIGHT. **Quick menu** is displayed. Choose **Start next phase** from the list, and press START (if manual phase change is chosen when creating the target). If automatic is chosen, the phase will change automatically when you have finished a phase.

VIEW QUICK MENU

Press and hold LIGHT. **Quick menu** is displayed. You can change certain settings without pausing your training session. For more information, See "Quick Menu" on page 33

SET CONSTANT BACKLIGHT ON

Press and hold LIGHT. **Quick menu** is displayed. Choose **Set backlight on** from the list, and press START. When enabled, the backlight stays on continuously when pressing LIGHT. Please note that using this function shortens battery life.

SET LOCATION GUIDE ON

The location guide is used by the Back to start feature, that guides to your starting point or a POI. Press and hold LIGHT. **Quick menu** is displayed. Choose **Set location guide on**, **Set target point** is displayed. Choose **Starting point (default)** . You can change the target point by returning to the **Quick menu**, and choosing **Change target point**. At least one POI must be saved during your session to be able to change the target point. For more information, See "Back to start" on page 55

SAVE POI (POINT OF INTEREST)

Press and hold LIGHT. **Quick menu** is displayed. Choose **Set location guide on** from the list, and press START. Choose **Save new POI** from list, and press START to save your current location as a POI.

COUNTDOWN TIMER

Press and hold LIGHT. **Quick menu** is displayed. Choose **Countdown timer** from the list, and press START. Choose **Set Timer**, and set the countdown time, and press **START** to confirm.

INTERVAL TIMER

Press and hold LIGHT. **Quick menu** is displayed. Choose **Interval timer** from the list, and press START. Choose **Start X.XX km / XX:XX** to use a previously set timer or create a new timer in **Set Timer**:

1. Choose **Time-based** or **Distance-based**:
    - **Time-based**: Define minutes and seconds for the timer and press START.
    - **Distance-based**: Set the distance for the timer and press START.
2. **Set another timer?** is shown. To set another timer, choose **Yes**.
3. When completed, choose **Start X.XX km / XX:XX** and press START.

AUTOMATIC PAUSE

When you start or stop moving, your V800 automatically starts and stops training recording. GPS recording must set to normal or, you must have a Polar Speed Sensor *Bluetooth*® Smart for automatic pause to work. Set automatic pause on or off in **Quick menu** or in sport profile settings. For more information, See "Sport Profile Settings" on page 26

HEARTTOUCH

Bring V800 near your heart rate sensor to activate the HeartTouch function. You can set the function to: off, activate backlight, show previous lap or show time of day. The HeartTouch function only works with a H7 heart rate sensor. You can edit the HeartTouch functions in the sport profile settings in the Flow web service. For more information, See "Sport Profiles" on page 74

PAUSE/STOP A TRAINING SESSION

	1. To pause a training session, press the BACK button. **Recording paused** is displayed. To continue your training session, press START.

	2. To stop a training session, press and hold the BACK button for three seconds when paused until **Recording ended** is displayed.

If you stop your session after pausing, the time elapsed after pausing is not included in the total training time.

DELETE A TRAINING SESSION

To delete a training session, go to **Diary** on your V800, and select a date. Scroll down to **Delete session**, and choose the session you want to delete.

You can only delete sessions from your V800 **Diary** that have not been synced to Flow app or the Flow web service. If you want to delete a file that you have already synced, it can be deleted in the Flow web service.

AFTER TRAINING

Get instant analysis and in-depth insights into your training and recovery with V800, Flow app and Flow web service.

TRAINING SUMMARY ON YOUR V800

After each training session, you'll get an instant training summary of your session. After viewing your training summary, you'll also see how your session affected recovery status.

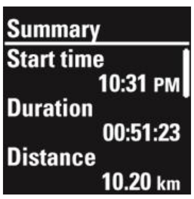
The information shown in the summary depends on the sport profile and sensors used. Information shown includes:

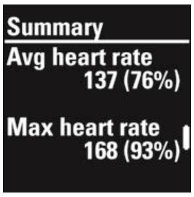
- Training Load and the needed recovery time for the session
- Training Benefit
- Start time and duration of your session
- Average and maximum speed/pace, distance
- Average and maximum heart rate and cumulative heart rate zones
- Altitude compensated calories and fat burn % of calories,
- Running Index
- Average and maximum cadence (running and cycling)
- Average and maximum stride length (running)
- Maximum altitude, ascent and descent
- Lap details

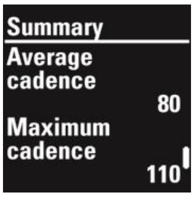
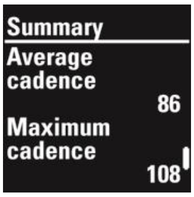
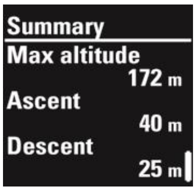
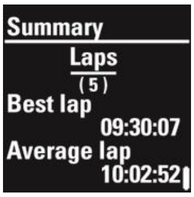
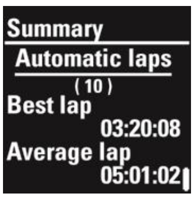
To view your training summary later, go to **Diary** and choose the day, and then choose the summary of the session you want to view.

SINGLE SPORT SUMMARY

Single sport summary includes detailed information of your session.

	Start time Duration Distance (visible if the GPS function is on or Polar Stride Sensor *Bluetooth*® Smart/ Polar Speed Sensor *Bluetooth*® Smart is in use)

	Race time Average speed in race Only visible if race pace used
	Training load Recovery need for this session
	Training Benefit Press START for more details. Visible if heart rate sensor in use, not visible in multisport sessions
	Heart rate zones Visible if heart rate sensor in use
	Average heart rate Maximum heart rate
	Calories Fat burn % of calories
	Average speed/pace Maximum speed/pace

	Running Index Visible if running type sport and GPS or Polar Stride Sensor *Bluetooth*® Smart in use
	Average cadence Maximum cadence Visible if Polar Stride Sensor *Bluetooth*® Smart in use
	Average stride length Maximum stride length Visible if Polar Stride Sensor *Bluetooth*® Smart in use
	Average cadence Maximum cadence Visible if Polar Cadence Sensor *Bluetooth*® Smart in use
	Maximum altitude Ascent Descent Visible if altitude in use
	Laps Best lap Average lap Press START for more details.
	Automatic laps Best lap Average lap Press START for more details.

MULTISPORT SUMMARY

Multisport summary includes an overall summary of the session as well as sport specific summaries.

	**Multisport Summary** gives you the general information on the whole training session. Duration Distance Press START to view more details on the whole session. To view detailed sport specific information, browse with UP/DOWN and press START in the summary of the sport.

POLAR FLOW APP

Sync your V800 with Flow app to analyze your data at a glance after each session. The Flow app allows you to see a quick overview of your training data offline.

For information, See "Polar Flow App" on page 36

POLAR FLOW WEB SERVICE

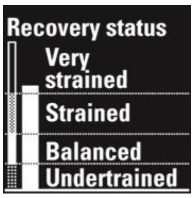
The Polar Flow web service allows you to analyze every detail of your training and learn more about your performance. Follow your progress and also share your best sessions with others.

For more information, See "Polar Flow Web Service" on page 36

STATUS

To view your status information, go to **Status**. In **Status** you'll find:

RECOVERY STATUS

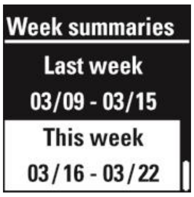
	Shows how recovered you are, and when you will reach the next recovery level.

	For more information, See "Recovery Status " on page 58

DAILY ACTIVITY

	Shows how many calories you have burnt through training, activity and BMR (Basal metabolic rate: the minimum metabolic activity required to maintain life).

WEEK SUMMARIES

	Shows your total training duration, distance and time spent in heart rate zones during a certain week.

FEATURES

GPS

The V800 has built-in GPS that provides accurate speed and distance measurement for a range of outdoor sports, and allows you to see your route on map in the Flow app and web service after your session.

V800 includes the following GPS features:

- **Distance**: Gives you accurate distance during and after your session.
- **Speed/Pace**: Accurate speed/pace information during and after your session.
- **Race Pace**: Helps you to keep a steady pace and achieve your target time for a set distance.
- **Running index**: In V800, Running Index is based on heart rate, speed and altitude data measured during the run. It gives information about your performance level, both aerobic fitness and running economy. In V800, this feature can also recognize if you're running uphill or downhill.
- **Back to start**: Directs you to your starting point in the shortest distance possible, as well as shows the distance to your starting point. Now you can check out more adventurous routes and explore them safely, knowing that you're only a touch of a button away from seeing the direction to where you started.
- **Route guidance**: Follows your previously recorded routes and shared routes from Polar Flow.

- **Power save mode**: Allows you to save the battery life of your V800 during long training sessions. You can store your GPS data at the intervals of 1 second or 60 seconds. A longer interval gives you more recording time, while a shorter interval allows you to record more detailed data. When power save mode is on, location based automatic lap, automatic pause and route guidance cannot be used. In addition, Running Index cannot be used unless you have a stride sensor, and Race Pace cannot be used unless you have a stride sensor or speed sensor.

ⓘ When using power save mode, the GPS data is not as accurate as in normal mode. Power save mode is only recommended to be used in long sessions lasting over 10 hours.

ⓘ When training with either a Polar Stride Sensor *Bluetooth*® Smart or Polar Speed Sensor *Bluetooth*® Smart with GPS set on, speed and distance information is collected from the stride sensor or speed sensor, not the GPS. However, route information is collected from the GPS.

ⓘ For best GPS performance, wear V800 on your wrist with the display facing up. Due to the location of the GPS antenna on the V800, it is not recommended to wear it with the display on the underside of your wrist. When wearing it on the handlebars of a bike, make sure the display is facing up.

BACK TO START

The back to start feature guides you back to the starting point of your session or to a saved POI.

To use the back to start feature:

1. Press and hold LIGHT during a training session. **Quick menu** is displayed.
2. Choose **Set location guide on**, **Set target point** is displayed.
3. Choose **Starting point (default)**.

You can change the target point by returning to the **Quick menu**, and choosing **Change target point**. At least one POI must be saved during your session to be able to change the target point.

To return to your starting point:

- Browse to the **Back to start** view.
- Keep V800 in a horizontal position in front of you.
- Keep moving in order for V800 to determine which direction you are going. An arrow will point in the direction of your starting point.
- To get back to the starting point, always turn in the direction of the arrow.
- The V800 also shows the bearing and the direct distance (beeline) between you and the starting point.

ⓘ When in unfamiliar surroundings, always keep a map at hand in case the V800 loses the satellite signal or the battery runs out.

ROUTE GUIDANCE

The route guidance feature guides you along routes that you have recorded in previous sessions or routes that other Flow web service users have recorded and shared.

When you start a route guidance session, your V800 guides you directly to the starting point of the route with an arrow as in the back to start feature. You must first go to starting point of your route in order for the guidance to start. When the starting point has been reached, your V800 guides you all the way through the route to the end. Guidance on the display keeps you on the right track during your session.

Guidance on the Display

- The circle shows your location (If the circle is empty you are off the route)
- The arrow shows the correct direction
- More of the route is shown as you as proceed

Adding a Route to V800

To add a route to your V800, you must save it as a favorite in the Flow web service **Explore** view or in the analysis view of your training session, and sync it to your V800.

For more information on favorites, See "Favorites" on page 39

For information on starting a session with route guidance, See "Start a Training Session" on page 42

RACE PACE

Race pace feature helps you to keep a steady pace and achieve your target time for a set distance. Define a target time for the distance, for example, 45 minutes for a 10 kilometer run. During the training session the target pace/speed is compared with training information. You can follow up on how far behind or ahead you are, compared to your pre-set target. You can also check what is the required steady pace/speed in order to meet your set target. Race pace can be set on V800, or you can also set a race pace target in the Flow web service.

For information on starting a session with Race Pace, See "Start a Training Session" on page 42

BAROMETER

The barometer features include:

- Altitude, ascent and descent
- Temperature during training (can be viewed on the display)
- Inclinometer (Requires Speed Sensor Bluetooth® Smart)

V800 measures altitude with an atmospheric air pressure sensor and converts the measured air pressure into an altitude reading. This is the most accurate way to measure altitude and altitude changes (ascent / descent) after calibration. Ascended and descended are shown in meters/feet. Uphill/downhill steepness is shown in percentages and grade, and is only visible during training when using a Speed Sensor Bluetooth® Smart when cycling.

To make sure that the altitude remains accurate, it needs to be calibrated whenever a reliable reference, such as a peak or a topographic map, is available or when at sea level. Calibration can also be set to automatic. This is especially useful if a training session is always started in the same environment. Pressure variations due to weather conditions, or indoor air-conditioning, may affect altitude readings.

The temperature shown is the temperature of your V800. When wearing V800 on your wrist, your body heat affects the temperature reading. To get an accurate air temperature reading, take V800 off your wrist for 15-20 minutes.

Altitude is automatically calibrated with GPS, but to get the most accurate altitude readings, it is recommended to always manually calibrate altitude when you know your current altitude. Manual calibration can be done in the pre-training view or in the training view quick menu. For more information, See "Quick Menu" on page 33

SMART COACHING

Whether it’s assessing your day-to-day fitness levels, creating individual training plans, working out at the right intensity or receiving instant feedback, Smart Coaching offers a choice of unique, easy-to-use features, personalized to your needs and designed for maximum enjoyment and motivation when training.

V800 includes the following Smart Coaching features:

- Training Load
- Recovery status based on Training Load and 24/7 activity
- Training Benefit
- Jump Test
- Fitness Test
- Orthostatic Test
- Running Index
- Heart rate zones
- Smart calories

TRAINING LOAD

Training load is textual feedback on the strenuousness of a single training session. Training load calculation is based on the consumption of critical energy sources (carbohydrates and proteins) during exercise. It makes the loads of different types of training sessions comparable with each other. To enable a more accurate

comparison between sessions, we have converted your training load into an approximate recovery need estimation.

Training load takes into consideration different factors which affect your training load and estimated recovery need. These include HR_{sit}, HR_{max}, VO_{2max}, sex, age, height, weight and your training background. Your aerobic and anaerobic thresholds (can be set in the Flow web service), heart rate during training and the duration of your session also affect the calculation. In addition by applying sport-specific factor, the strenuousness of the sport performed is reflected in your in training load and recovery need.



After each training session in the training summary, you will receive a description of your training load and the estimated time needed to recover from the session.

Training Load	
Extreme	> 49 h
Very demanding	25 – 48 h
Demanding	13 – 24 h
Reasonable	7 – 12 h
Mild	0 – 6 h

Check the estimated recovery needs for the different Training Loads from this chart.

See a more detailed visual interpretation of your training load and recovery in the Flow web service.

RECOVERY STATUS

The recovery status feature keeps track of your cumulative load – that is, intensity, volume and frequency of your training and activity – taking your training background into account. Your recovery status combines your training load with the data of the activities you do every day. It estimates your recovery status and how long it takes for you to recover. It is a tool that helps you avoid over and under training and adjust your training plans, together with other tools such as the orthostatic test.

Your recovery status is based on your cumulative training load, daily activity and resting from the past 8 days. The most recent training sessions and activity are weighted more than earlier ones, therefore they have the biggest effect on your recovery status. Your activity outside training sessions is tracked with an internal 3D accelerometer that records your wrist movements. It analyzes the frequency, intensity and irregularity of your movements together with your physical information, allowing you to see how active you are outside your training sessions. By combining your daily activity with your training load you get a true picture of your required recovery status. Continuous monitoring of your recovery status will help you recognize personal limits, avoid over or under training, and adjust training intensity and duration according to your daily and weekly targets.

To get the most accurate recovery status information, wear a heart rate sensor when training.

	**Very strained** "Very strained" means that you have been training hard lately and your cumulative load is very high. Over time this will improve your fitness and performance. You just need to give yourself enough time to fully recover before your next heavy training period or competition. **Strained** "Strained" shows that your training load has cumulated and become high. This may also mean that you're not fully recovered from your past training and activity. Improving fitness and performance requires strenuous training every now and then, but also time to recover well. **Balanced** "Balanced" tells you that your recent training and the time you need to recover from it are in balance. When you devote enough time for recovery, you can make sure you get the most out of your training. **Undertrained** "Undertrained" means that you have recently been training less than normally. Perhaps you need some extra time to recover due to an illness, stress from everyday life or change of focus in your training plan. Please remember, though, that if you cut down your training load for weeks in a row without careful planning, some of the training benefits you have already gained may diminish.

	Shows you when you will reach the next recovery level.

View Your Recovery Status

- Tap the display in time view

or

- Go to **Status > Recovery status**

View Your Daily Calories

See how many calories you have burnt through training, activity and BMR (Basal metabolic rate: the minimum metabolic activity required to maintain life).

- Tap the display twice in time view

or

- Go to **Status > Daily activity**

A more detailed view of your daily activity including activity intensity, active time, inactivity, steps/distance, calories, and sleep time/index is available in the Flow app and Flow web service.

TRAINING BENEFIT

The Training Benefit feature helps you better understand the effects of your training. This feature requires the use of the heart rate sensor. After each training session you get textual feedback on your training session providing that you have trained at least a total of 10 minutes in the heart rate zones.

HOW DOES IT WORK?

Training Benefit feedback is based on heart rate zones. It reads into how much time you spend and how many calories you burn in each zone.

Motivating feedback that's delivered straight to you immediately after exercise is something we can all benefit from. So if you want to know the effect of different training sessions, this feature will tell you exactly what you need to know. You get a quick overview after each session, and for more detailed feedback, you can either check your training file or you can get further in-depth analysis at polar.com/flow. The descriptions of different training benefit options are listed in the table below.

Feedback	Training benefit
Maximum training+	What a session! You improved your sprint speed and the nervous system of your muscles, which make you more efficient. This session also increased your resistance to fatigue.
Maximum training	What a session! You improved your sprint speed and the nervous system of your muscles, which make you more efficient.
Maximum & Tempo training	What a session! You improved your speed and efficiency. This session also significantly developed your aerobic fitness and your ability to sustain high intensity effort for longer.
Tempo & Maximum training	What a session! You significantly improved your aerobic fitness and your ability to sustain high intensity effort for longer. This session also developed your speed and efficiency.
Tempo training+	Great pace in a long session! You improved your aerobic fitness, speed, and abil-

Feedback	Training benefit
	ity to sustain high intensity effort for longer. This session also increased your resistance to fatigue.
Tempo training	Great pace! You improved your aerobic fitness, speed, and ability to sustain high intensity effort for longer.
Tempo & Steady state training	Good pace! You improved your ability to sustain high intensity effort for longer. This session also developed your aerobic fitness and the endurance of your muscles.
Steady state & Tempo training	Good pace! You improved your aerobic fitness and the endurance of your muscles. This session also developed your ability to sustain high intensity effort for longer.
Steady state training+	Excellent! This long session improved the endurance of your muscles and your aerobic fitness. It also increased your resistance to fatigue.
Steady state training	Excellent! You improved the endurance of your muscles and your aerobic fit-ness.
Steady state & Basic training, long	Excellent! This long session improved the endurance of your muscles and your aerobic fitness. It also developed your basic endurance and your body's ability to burn fat during exercise.
Steady state & Basic training	Excellent! You improved the endurance of your muscles and your aerobic fit-ness. This session also developed your basic endurance and your body's ability to burn fat during exercise.
Basic & Steady state training, long	Great! This long session improved your basic endurance and your body's ability to burn fat during exercise. It also developed the endurance of your muscles and your aerobic fitness.
Basic & Steady state training	Great! You improved your basic endurance and your body's ability to burn fat dur-ing exercise. This session also developed the endurance of your muscles and your aerobic fitness.
Basic training, long	Great! This long, low intensity session improved your basic endurance and your body's ability to burn fat during exercise.
Basic training	Well done! This low intensity session improved your basic endurance and your body's ability to burn fat during exercise.
Recovery training	Very nice session for your recovery. Light exercise like this allows your body to adapt to your training.

JUMP TEST

There are three kinds of jump tests to choose from: squat, countermovement and continuous. The squat and countermovement tests measure your explosive strength, but in the countermovement jump test your muscles and tendons also do a pre-stretch that lets you use elastic energy, usually allowing you to jump

higher. The continuous jump test measures your anaerobic power. It is especially useful for those who do sports that require anaerobic power, in other words maximal effort for short periods.

To do the Jump test, go to **Tests > Jump Test**. To perform the test you need a Polar Stride Sensor *Bluetooth*® Smart. For more information See "Polar Stride Sensor Bluetooth® Smart" on page 79

ⓘ If you haven't paired a Polar Stride Sensor *Bluetooth*® Smart with V800, **You need a Polar stride sensor** is displayed when trying to enter **Jump Test**.

Before performing any of the jump tests, make sure you have warmed up properly, especially your leg muscles. When performing any of the tests, always use the same correct jumping technique to maximize the comparability and reliability of the results.

Your latest test result is shown in **Tests > Jump test > Latest result**. Only your most recently performed test result is shown. You can view your previous results in the V800 diary. For a visual analysis of your Jump test results, go to the Flow web service and select the test from your **Diary** to view details from it.

SQUAT JUMP

The squat jump test measures explosive strength. This test is performed by starting with your knees bent in a 90 degree angle, and jumping vertically as high as possible from that position. Hands should be held on the hips to avoid the effect of arm swinging to the test. Knees and ankles should be extended at take-off, and they should be in a similar extended position when landing on the ball of the foot.

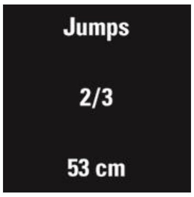
In the test you perform three attempts of the squat jump and the best attempt is the test result. Give yourself a short recovery period between attempts to ensure maximal effort on every attempt.

Performing the Squat Jump

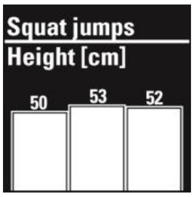
Wear the Polar *Bluetooth*® Smart Stride Sensor, and choose **Jump test > Squat**, and press START. **Searching for stride sensor** is displayed. **Squat jumps Start now!** is shown when you can start the test.

1. Stand with your hands on your hips and knees bent in a 90 degree angle. Stay still for a few seconds.
2. Jump vertically without any countermovement.
3. Land with both feet with your legs straight and ankles extended.
4. Perform three attempts of the squat jump. Give yourself a short recovery period between attempts to ensure maximal effort on every attempt.

ⓘ It is important not to perform any kind of countermovement during the squat jump test.

	During the test you will see the number jumps performed (**1/3, 2/3 or 3/3**), and the height of your last jump e.g. **53 cm**.

Test Results

	After the test you will see the heights of all three of your jumps

COUNTERMOVEMENT JUMP

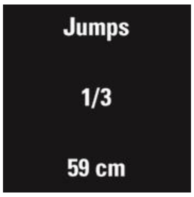
The countermovement jump test measures explosive strength. This test is performed by starting in an upright standing position and squatting down to a 90 degree leg bend position before immediately jumping vertically as high as possible. Hands should be held on the hips to avoid the effect of arm swinging to the test. Knees and ankles should be extended at take-off, and they should be in a similar extended position when landing on the ball of the foot.

In the test you perform three attempts of the countermovement jump and the best attempt is the test result. Give yourself a short recovery period between attempts to ensure maximal effort on every attempt.

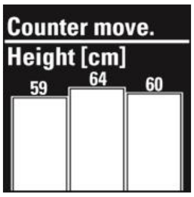
Performing the Countermovement Jump

Wear the Polar *Bluetooth*® Smart Stride Sensor, and choose **Jump test > Countermovement**, and press START. **Searching for stride sensor** is displayed. **Countermovement Start now!** is shown when you can start the test.

1. Stand upright with your hands on your hips.
2. Squat rapidly to about a 90 degree knee angle, and immediately jump vertically.
3. Land with both feet with your legs straight and ankles extended.
4. Perform three attempts of the countermovement jump. Give yourself a short recovery period between attempts to ensure maximal effort on every attempt.

	During the test you will see the number jumps performed (**1/3, 2/3 or 3/3**), and the height of your last jump e.g. **59 cm**.

Test Results

	After the test you will see the heights of all three of your jumps.

CONTINUOUS JUMP

The continuous jump test measures your anaerobic power. This test is especially useful for those who do sports that require anaerobic power, in other words maximal effort for short periods.The aim of the continuous jump test is to perform the highest number of jumps with maximum height in the set time period.

The continuous jump test is performed by squatting down until the knees are bent in a 90 degree angle, and then rapidly jumping vertically as high as possible, and landing with both feet at the same time, bending the knees, and repeating the vertical jumping movement until the set time period is over. The test should be started with maximal effort, jumping as high as possible as rapidly as possible. As the test proceeds you will naturally become fatigued but keep maximal effort throughout the test. In the Flow web service you can analyze your test jump by jump, and see how your jump height decreased during the test.

Performing the Continuous Jump

Before performing the continuous jump test, set the duration of test. Choose **Jump test > Set duration of cont. test** The duration can be set to **15 seconds, 30 seconds, 60 seconds** or **Set other duration**. If you choose **Set other duration**, you can set the duration anywhere from 5 seconds to 300 seconds.

Wear the Polar *Bluetooth*® Smart Stride Sensor, and choose **Jump test > Continuous**, and press START. **Searching for stride sensor** is displayed. **Continuous jumps Start now!** is shown when you can start the test.

1. Stand upright with your hands on your hips.
2. Squat until your knees are in a 90 degree leg bend position, and immediately jump vertically.
3. Land with both feet with your legs straight and ankles extended.
4. Repeat the jump movement continuously until the test is over (you will be notified with audio and vibration when the test is over).

	During the test you will see the number of jumps performed, and the time remaining .

Test Results

	After the test you will see the number of jumps performed, the average height of your jumps and the average power per kilogram/pound.

FITNESS TEST

The Polar Fitness Test is an easy, safe and quick way to estimate your aerobic (cardiovascular) fitness at rest. The result, Polar OwnIndex, is comparable to maximal oxygen uptake (VO_{2max}), which is commonly used to evaluate aerobic fitness. Your long-term training background, heart rate, heart rate variability at rest, gender, age, height, and body weight all influence OwnIndex. The Polar Fitness Test is developed for use by healthy adults.

Aerobic fitness relates to how well your cardiovascular system works to transport oxygen to your body. The better your aerobic fitness, the stronger and more efficient your heart is. Good aerobic fitness has many health benefits. For example, it helps in decreasing the risk of high blood pressure and your risk of cardiovascular diseases and stroke. If you want to improve your aerobic fitness it takes, on average, six weeks of regular training to see a noticeable change in your OwnIndex. Less fit individuals see progress even more rapidly. The better your aerobic fitness, the smaller the improvements in your OwnIndex.

Aerobic fitness is best improved by training types that use large muscle groups. Such activities include running, cycling, walking, rowing, swimming, skating, and cross-country skiing. To monitor your progress, start by measuring your OwnIndex a couple of times during the first two weeks in order to get a baseline value, and then repeat the test approximately once a month.

To make sure the test results are reliable, the following basic requirements apply:

- You can perform the test anywhere - at home, at the office, at a health club - provided the testing environment is peaceful. There should be no disturbing noises (e.g. television, radio, or telephone) and no other people talking to you.
- Always take the test in the same environment and at the same hour.
- Avoid eating a heavy meal or smoking 2-3 hours prior to testing.
- Avoid heavy physical exertion, alcohol, and pharmaceutical stimulants on the test day and the previous day.
- You should be relaxed and calm. Lie down and relax for 1-3 minutes before starting the test.

BEFORE THE TEST

Wear your heart rate sensor. For more information, See "Wear Heart Rate Sensor" on page 41

Before starting the test, make sure your physical settings including training background are accurate in **Settings > Physical settings**

PERFORMING THE TEST

To perform the fitness test, go to**Tests > Fitness Test > Relax and start the test**.

- **Searching for heart rate** is displayed. When heart rate is found, a heart rate graph, your current heart rate and **Lie down & relax** is shown on the display. Stay relaxed and limit body movements and communication with other people.
- You can interrupt the test in any phase by pressing BACK. **Test canceled** is displayed.

If V800 cannot receive your heart rate signal, the message **Test failed** is displayed. In which case, you should check that the heart rate sensor electrodes are wet and that the textile strap fits snugly.

TEST RESULTS

When the test is over, you hear two beeps along with a description of your fitness test result and your estimated VO_{2max} is displayed.

Update to VO2max to physical settings? is displayed.

- Select **Yes** to save the value to your **Physical settings**.
- Select **No** only if you know your recently measured VO_{2max} value, and if it differs more than one fitness level class from the result.

Your latest test result is shown in **Tests > Fitness test > Latest result**. Only your most recently performed test result is shown.

For a visual analysis of your Fitness test results, go to the Flow web service and select the test from your Diary to view details from it.

Fitness Level Classes

Men

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 32	32-37	38-43	44-50	51-56	57-62	> 62
25-29	< 31	31-35	36-42	43-48	49-53	54-59	> 59
30-34	< 29	29-34	35-40	41-45	46-51	52-56	> 56
35-39	< 28	28-32	33-38	39-43	44-48	49-54	> 54
40-44	< 26	26-31	32-35	36-41	42-46	47-51	> 51
45-49	< 25	25-29	30-34	35-39	40-43	44-48	> 48
50-54	< 24	24-27	28-32	33-36	37-41	42-46	> 46

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
55-59	< 22	22-26	27-30	31-34	35-39	40-43	> 43
60-65	< 21	21-24	25-28	29-32	33-36	37-40	> 40

Women

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 27	27-31	32-36	37-41	42-46	47-51	> 51
25-29	< 26	26-30	31-35	36-40	41-44	45-49	> 49
30-34	< 25	25-29	30-33	34-37	38-42	43-46	> 46
35-39	< 24	24-27	28-31	32-35	36-40	41-44	> 44
40-44	< 22	22-25	26-29	30-33	34-37	38-41	> 41
45-49	< 21	21-23	24-27	28-31	32-35	36-38	> 38
50-54	< 19	19-22	23-25	26-29	30-32	33-36	> 36
55-59	< 18	18-20	21-23	24-27	28-30	31-33	> 33
60-65	< 16	16-18	19-21	22-24	25-27	28-30	> 30

The classification is based on a literature review of 62 studies where VO_{2max} was measured directly in healthy adult subjects in the USA, Canada and 7 European countries. Reference: Shvartz E, Reibold RC. Aerobic fitness norms for males and females aged 6 to 75 years: a review. Aviat Space Environ Med; 61:3-11, 1990.

ORTHOSTATIC TEST

Orthostatic test is a generally used tool for monitoring the balance between training and recovery. It is based on the training-induced changes in the function of your autonomic nervous system. Orthostatic test results are affected by several external factors, such as mental stress, sleep, latent illness, environmental changes (temperature, altitude), and others. Long term follow-up helps you to optimize your training and prevent overtraining.

Orthostatic test is based on the measurement of heart rate and heart rate variability. Changes in heart rate and heart rate variability reflect the changes in autonomic regulation of the cardiovascular system. During the test HRrest, HRstand and HRpeak are measured. Heart rate and heart rate variability measured during orthostatic test are good indicators of disturbances in the autonomic nervous system, for example fatigue or overtraining. However, heart rate responses to fatigue and overtraining are always individual, and require longer term follow-up.

BEFORE THE TEST

When you perform the test for the first time, six baseline tests should be conducted over a period of two weeks to determine your personal baseline value. These baseline measurements should be taken during two typical basic training weeks, not during heavy training weeks. The baseline measurements should include tests taken both after training days and after recovery days.

After the baseline recordings, you should continue to perform the test 2-3 times a week. Test yourself weekly in the morning following both a recovery day and a heavy training day (or a series of heavy training days). An optional third test can be performed after a normal training day. The test may not provide reliable information during detraining or in a very irregular training period. If you take a break from exercise for 14 days or longer, you should consider resetting your long-term averages and perform the baseline tests again

The test should always be taken in standardized/similar conditions in order to get the most reliable results. It is recommended that you take the test in the morning before breakfast. The following basic requirements apply:

- Wear the heart rate sensor.
- You should be relaxed and calm.
- You can be seated in a relaxed position or lying in bed. The position should always be the same when you do the test.
- The test can take place anywhere – at home, in the office, at a health club – as long as the test environment is peaceful. There should be no disturbing noises (for example, television, radio or telephone) or other people talking to you.
- Avoid eating, drinking and smoking 2-3 hours prior to the test.
- It is recommended to perform the test regularly and at the same time of day to get comparable test results, preferably in the morning after waking up.

PERFORMING THE TEST

Choose **Tests > Orthostatic test > Relax and start the test**. **Searching for heart rate** is displayed. When heart rate is found **Lie down & relax** is shown on the display.

- Your heart rate graph is shown on the display. Do not move during this first part of the test, which lasts 3 minutes.
- After 3 minutes, the wrist unit will beep and **Stand up** is displayed. Stand up and remain standing still for 3 minutes.
- After 3 minutes, the wrist unit will beep again and the test is finished.
- You can interrupt the test in any phase by pressing BACK. **Test canceled** is displayed.

If V800 cannot receive your heart rate signal, the message **Test failed** is displayed. In which case, you should check that the heart rate sensor electrodes are wet and that the textile strap fits snugly.

TEST RESULTS

As a result you see your HRrest, HRstand and HRpeak values compared with the average of your previous results.

Your latest test result is shown in **Tests > Orthostatic test > Latest result**. Only your most recently performed test result is shown.

In the Flow web service you can follow your test results in the long-term. For a visual analysis of your Orthostatic test results, go to the Flow web service and select the test from your Diary to view details from it.

RUNNING INDEX

Running Index offers an easy way to monitor running performance changes. A running index value is an estimate of maximal aerobic running performance, which is influenced by aerobic fitness and running economy. By recording your Running Index over time, you can monitor progress. Improvement means that running at a given pace requires less of an effort, or that your pace is faster at a given level of exertion.

In V800, Running Index takes the effect of uphills and downhills into account. At a given pace, running uphill is physiologically more stressful than running on a level surface, and running downhill is physiologically less stressful than running on a level surface.

To receive the most accurate information on your performance, make sure you have set your HR_{max} and HR_{rest} values.

Running Index is calculated during every training session when heart rate and the GPS function is on / Stride Sensor *Bluetooth*® Smart is in use, and when the following requirements apply:

- Sport profile used is a running type sport (Running, Road Running, Trail running etc.)
- Speed should be 6 km/h / 3,75 mi/h or faster and duration 12 minutes minimum
- Altitude data must be available (otherwise up- and downhills are not taken into account)

To receive the most accurate information on your performance, make sure you have set your HR_{max} and HR_{rest} values. Calculation begins when you start recording the session. During a session, you may stop twice at traffic lights, for example, without interrupting the calculation. After your session, V800 displays a Running Index value and stores the result in the training summary.

If you use a stride sensor, make sure that the stride sensor is calibrated.

Compare your result to the table below.

SHORT-TERM ANALYSIS

Men

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 32	32-37	38-43	44-50	51-56	57-62	> 62
25-29	< 31	31-35	36-42	43-48	49-53	54-59	> 59
30-34	< 29	29-34	35-40	41-45	46-51	52-56	> 56
35-39	< 28	28-32	33-38	39-43	44-48	49-54	> 54
40-44	< 26	26-31	32-35	36-41	42-46	47-51	> 51
45-49	< 25	25-29	30-34	35-39	40-43	44-48	> 48
50-54	< 24	24-27	28-32	33-36	37-41	42-46	> 46
55-59	< 22	22-26	27-30	31-34	35-39	40-43	> 43
60-65	< 21	21-24	25-28	29-32	33-36	37-40	> 40

Women

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 27	27-31	32-36	37-41	42-46	47-51	> 51
25-29	< 26	26-30	31-35	36-40	41-44	45-49	> 49
30-34	< 25	25-29	30-33	34-37	38-42	43-46	> 46
35-39	< 24	24-27	28-31	32-35	36-40	41-44	> 44
40-44	< 22	22-25	26-29	30-33	34-37	38-41	> 41
45-49	< 21	21-23	24-27	28-31	32-35	36-38	> 38
50-54	< 19	19-22	23-25	26-29	30-32	33-36	> 36
55-59	< 18	18-20	21-23	24-27	28-30	31-33	> 33
60-65	< 16	16-18	19-21	22-24	25-27	28-30	> 30

The classification is based on a literature review of 62 studies where VO_{2max} was measured directly in healthy adult subjects in the USA, Canada and 7 European countries. Reference: Shvartz E, Reibold RC. Aerobic fitness norms for males and females aged 6 to 75 years: a review. Aviat Space Environ Med; 61:3-11, 1990.

There may be some daily variation in the Running Indexes. Many factors influence Running Index. The value you receive on a given day is affected by changes in running circumstances, for example different surface, wind or temperature, in addition to other factors.

LONG-TERM ANALYSIS

The single Running Index values form a trend that predicts your success in running certain distances.

The following chart estimates the duration that a runner can achieve in certain distances when performing maximally. Use your long-term Running Index average in the interpretation of the chart. The prediction is best for those Running Index values that have been received at speed and running circumstances similar to the target performance.

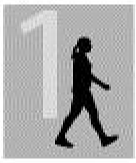
Running Index	Cooper test (m)	5 km (h:mm:ss)	10 km (h:mm:ss)	21.098 km (h:mm:ss)	42.195 km (h:mm:ss)
36	1800	0:36:20	1:15:10	2:48:00	5:43:00
38	1900	0:34:20	1:10:50	2:38:00	5:24:00
40	2000	0:32:20	1:07:00	2:29:30	5:06:00
42	2100	0:30:40	1:03:30	2:21:30	4:51:00
44	2200	0:29:10	1:00:20	2:14:30	4:37:00
46	2300	0:27:50	0:57:30	2:08:00	4:24:00
48	2400	0:26:30	0:55:00	2:02:00	4:12:00
50	2500	0:25:20	0:52:40	1:57:00	4:02:00
52	2600	0:24:20	0:50:30	1:52:00	3:52:00
54	2700	0:23:20	0:48:30	1:47:30	3:43:00
56	2800	0:22:30	0:46:40	1:43:30	3:35:00
58	2900	0:21:40	0:45:00	1:39:30	3:27:00
60	3000	0:20:50	0:43:20	1:36:00	3:20:00
62	3100	0:20:10	0:41:50	1:32:30	3:13:00
64	3200	0:19:30	0:40:30	1:29:30	3:07:00
66	3300	0:18:50	0:39:10	1:26:30	3:01:00
68	3350	0:18:20	0:38:00	1:24:00	2:55:00
70	3450	0:17:50	0:36:50	1:21:30	2:50:00
72	3550	0:17:10	0:35:50	1:19:00	2:45:00

Running Index	Cooper test (m)	5 km (h:m-m:ss)	10 km (h:m-m:ss)	21.098 km (h:mm:ss)	42.195 km (h:m-m:ss)
74	3650	0:16:40	0:34:50	1:17:00	2:40:00
76	3750	0:16:20	0:33:50	1:14:30	2:36:00
78	3850	0:15:50	0:33:00	1:12:30	2:32:00

HEART RATE ZONES

Polar heart rate zones introduce a new level of effectiveness in heart rate-based training. Training is divided into five heart rate zones based on percentages of maximum heart rate. With heart rate zones, you can easily select and monitor training intensities.

Target zone	Intensity % of HRmax*, bpm	Example durations	Training effect
MAXIMUM 	90–100% 171–190 bpm	less than 5 minutes	Benefits: Maximal or near maximal effort for breathing and muscles. Feels like: Very exhausting for breathing and muscles. Recommended for: Very experienced and fit athletes. Short intervals only, usually in final preparation for short events.
HARD 	80–90% 152–172 bpm	2–10 minutes	Benefits: Increased ability to sustain high speed endurance. Feels like: Causes muscular fatigue and heavy breathing. Recommended for: Experienced athletes for year-round training, and for various durations. Becomes more important during pre competition season.
MODERATE 	70–80% 133–152 bpm	10–40 minutes	Benefits: Enhances general training pace, makes moderate intensity efforts easier and improves efficiency. Feels like: Steady, controlled, fast breathing. Recommended for: Athletes training for events, or looking for performance gains.

Target zone	Intensity % of HRmax*, bpm	Example durations	Training effect
LIGHT 	60–70% 114-133 bpm	40–80 minutes	Benefits: Improves general base fitness, improves recovery and boosts metabolism. Feels like: Comfortable and easy, low muscle and cardiovascular load. Recommended for: Everybody for long training sessions during base training periods and for recovery exercises during competition season.
VERY LIGHT 	50–60% 104–114 bpm	20–40 minutes	Benefits: Helps to warm up and cool down and assists recovery. Feels like: Very easy, little strain. Recommended for: For recovery and cool-down, throughout training season.

*HR_{max} = Maximum heart rate (220-age). Example: 30 years old, 220–30=190 bpm.

Training in heart rate zone 1 is done at a very low intensity. The main training principle is that performance improves when recovering after, and not only during training. Accelerate the recovery process with very light intensity training.

Training in heart rate zone 2 is for endurance training, an essential part of any training program. Training sessions in this zone are easy and aerobic. Long-duration training in this light zone results in effective energy expenditure. Progress will require persistence.

Aerobic power is enhanced in heart rate zone 3. The training intensity is higher than in zones 1 and 2, but still mainly aerobic. Training in zone 3 may, for example, consist of intervals followed by recovery. Training in this zone is especially effective for improving the efficiency of blood circulation in the heart and skeletal muscles.

If your goal is to compete at top potential, you will have to train in heart rate zones 4 and 5. In these zones, you exercise anaerobically in intervals of up to 10 minutes. The shorter the interval, the higher the intensity. Sufficient recovery between intervals is very important. The training pattern in zones 4 and 5 is designed to produce peak performance.

The Polar target heart rate zones can be personalized in the sport profile settings in the Flow web service by using a laboratory measured HR_{max} value, or by taking a field test to measure the value yourself. When training in a target heart rate zone, try to make use of the entire zone. The mid-zone is a good target, but keeping your heart rate at that exact level all the time is not necessary. Heart rate gradually adjusts to training

intensity. For instance, when crossing from heart rate target zone 1 to 3, the circulatory system and heart rate will adjust in 3-5 minutes.

Heart rate responds to training intensity depending on factors such as fitness and recovery levels, as well as environmental factors. It is important to look out for subjective feelings of fatigue, and to adjust your training program accordingly.

SMART CALORIES

The most accurate calorie counter on the market calculates the number of calories burned. The energy expenditure calculation is based on:

- Body weight, height, age, gender
- Individual maximum heart rate (HR_{max})
- Heart rate during training
- Individual resting heart rate value (HR_{rest})
- Individual maximal oxygen uptake ($VO2_{max}$)
- Altitude

For best possible Smart Calories information accuracy, please give V800 your measured $VO2_{max}$ and HR_{max} values if you have them. If not, use the value given by Polar Fitness test.

SPORT PROFILES

Lets you list all your favorite sports and define specific settings for each one of them. For example, you can create tailored views for each sport you do and choose what data you want to see when you train: just your heart rate or just speed and distance – whatever suits you and your training needs and requirements best.

There are six sport profiles on your V800 by default. In the Flow web service you can add new sport profiles to your sports list, as well as edit them and existing profiles. Your V800 can contain a maximum of 20 sport profiles. The number of sport profiles in the Flow web service is not limited. If you have over 20 sport profiles in the Flow web service, the first 20 in the list are transferred to your V800 when syncing.

You can change the order of your sport profiles by dragging and dropping them. Choose the sport you want to move and drag it into the place you want to put it in the list.

ADD A SPORT PROFILE

In the Flow web service:

1. Click your name/profile photo in the upper right corner.
2. Choose **Sport Profiles**.

3. Click **Add sport profile**, and choose the sport from the list.
4. The sport is added to your sport list.

EDIT A SPORT PROFILE

In the Flow web service:

1. Click your name/profile photo in the upper right corner.
2. Choose **Sport profiles**.
3. Click **Edit** under the sport you want to edit.

In each sport profile, you can edit the following information:

RELATED TO SPORT

BASICS

- Automatic lap (Can be set to duration, distance or location-based)
- Training sounds
- Speed view
- Training reminder (You will receive a message after a set duration, distance or a certain amount of calories burned)

HEART RATE

- Heart rate view (Beats per minute, % of maximum, % of heart rate reserve)
- Heart rate visible to other devices (Other compatible devices using Bluetooth ® Smart wireless technology (e.g. gym equipment) can detect your heart rate.)
- Heart rate zone settings (With the heart rate zones you can easily select and monitor training intensities. If you choose Default, you cannot change heart rate limits. If you choose Free, all limits can be changed. Default heart rate zone limits are calculated from your maximum heart rate.

RELATED TO DEVICE

TRAINING VIEWS

Choose what information you see on your training views during your sessions. You can have a total of eight different training views for each sport profile. Each training view can have a maximum of four different data fields.

Click the pencil icon on an existing view to edit it, or add a new view. You can select one to four items for your view from six categories:

Time	Environment	Body measurement	Distance	Speed	Cadence

• Time of day • Duration • Lap time • Last lap time	• Altitude • Total ascent • Total descent • Incline • Temperature • Current lap ascent • Current lap descent	• Heart rate • Average heart rate • Maximum heart rate • HR avg in lap • Calories • ZonePointer • Time in zone • RR variation	• Distance • Lap distance • Last lap distance	• Speed/pace • Average speed/pace • Maximum speed/pace • Lap speed/pace	• Running/Cycling cadence • Average running/cycling cadence • Current lap running/cycling cadence • Stride length • Average stride length

You can also enable or disable the cumulative HR zone view and the Back to start view from these settings.

GESTURES AND FEEDBACK

- Heart Touch
- Tap
- Automatic pause
- Vibration feedback

Please note that stride sensor settings are visible in all single sport profiles. If do not have a stride sensor, ignore this setting.

GPS AND ALTITUDE

- GPS recording rate (Power save, long session is only recommended to be used in long sessions lasting over 10 hours. When using power save mode, the GPS data is not as accurate as in normal mode.)
- Altitude

When you are done with the sport profile settings, click save. To sync the settings to your V800, press synchronize in FlowSync.

MULTISPORT

Multisport allows you to include multiple sports in one training session, and seamlessly switch between sports without interrupting your training recording. During a multisport training session your transition times between sports are automatically monitored, allowing you to see how long it took you to switch from one sport to another.

There are two different ways to perform a multisport training session: fixed multisport and free multisport. In a fixed multisport (multisport profiles in the Polar sports list) like triathlon, the order of the sports is fixed, and they must be performed in that specific order. In free multisport, you can choose what sports you perform and in which order you perform them by selecting them from the sport list. You can also switch back and forth between sports.

For information on starting a multisport session, See "Start a Training Session" on page 42

SWIMMING

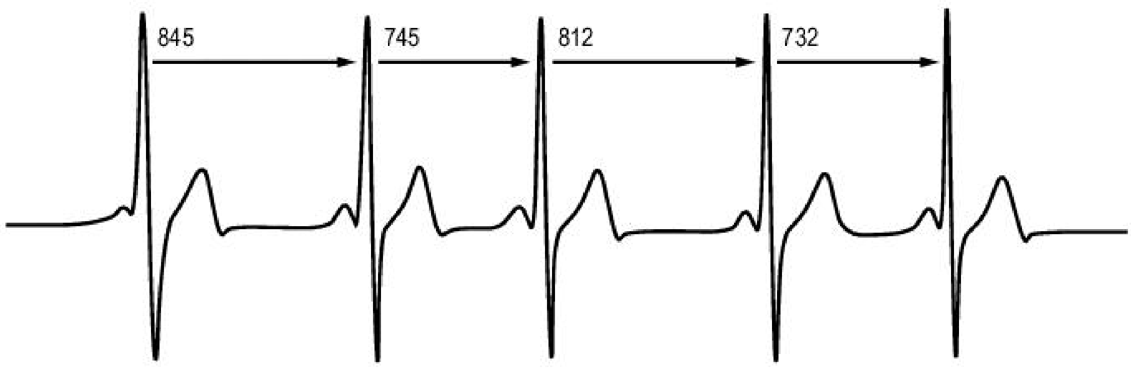
V800 is water resistant to 30 meters, and can be worn during swimming. The H7 heart rate sensor detects your heart rate when swimming with GymLink transmission as Bluetooth Smart® does not work in water. Please note that when using GPS when swimming, interference may occur, and the recorded data is not as accurate as in land activities. GPS may also interfere with GymLink transmission, causing disturbance in heart rate measurement when swimming. Therefore it is recommended to switch GPS off when measuring heart rate in water.

When measuring heart rate in water, you may experience interference because:

- The ECG signal strength is individual and may vary depending on the individual’s tissue composition. Problems occur more frequently when measuring heart rate in water.
- Pool water with high chlorine content and seawater are very conductive. Sensor electrodes can short-circuit in these conditions preventing ECG signal detection.
- Jumping into water or strenuous muscle movement during competitive swimming may shift the sensor on your body where ECG signals are not detected.

R-R RECORDING

R-R recording rate saves RR intervals, i.e. intervals between successive heartbeats. Heart rate varies with every heartbeat. Heart rate variability (HRV) is the variation of RR intervals. The R-R recording feature allows you to record RR intervals for research or coaching purposes without accumulating training data. Please note that you cannot train with V800 when using the R-R recording feature.



PERFORMING R-R RECORDING

To perform R-R recording:

1. Wear the heart rate sensor, and go to **Tests > RR recording > Start Recording** and press START
2. **Searching for heart rate** is displayed. The recording is started when **Heart rate found** is displayed.
3. To stop the recording, press and hold BACK.

TEST RESULTS

After stopping the recording you will see the result. The result includes:

- Duration
- Start time
- End time
- Minimum heart rate
- Maximum heart rate
- Average heart rate

After syncing your R-R recording results to the Flow web service you can export them to third party services for further analysis.

SENSORS

POLAR STRIDE SENSOR *BLUETOOTH*® SMART

PAIR A STRIDE SENSOR WITH V800

Make sure the stride sensor has been correctly attached to your shoe. For more information on setting up the stride sensor refer to the user manual of the stride sensor.

There are two ways to pair a stride sensor with your V800:

1. Press START in time view to enter pre-training mode.
2. Touch your stride sensor with V800, and wait for it to be found.
3. The device ID **Pair Polar RUN xxxxxxxx** is displayed. Choose **Yes**.
4. **Pairing completed** is shown when you are done.

or

1. Go to **General Settings > Pair and sync > Pair new device** and press START.
2. V800 starts searching for your stride sensor.
3. Once the stride sensor is found, **Polar RUN xxxxxxxx** is displayed.
4. Press START, **Pairing** is displayed.
5. **Pairing completed** is displayed when you are done.

CALIBRATE THE STRIDE SENSOR

Calibration of the stride sensor improves the accuracy of speed/pace and distance measurements. It is recommended that you calibrate the stride sensor before using it for the first time, if there are significant changes in your running style, or if the position of the stride sensor on the shoe is dramatically changed (e.g. if you have new shoes or if you switch the sensor from your right shoe to your left one). The calibration should

be done at the speed you normally run. If you run at different speeds, the calibration should be done at your average speed. You can calibrate the stride sensor manually or automatically.

When training with a stride sensor you can choose to use speed data from GPS or from the stride sensor. To set this go to **Settings > Sport profiles > Running> Stride sensor > Choose sensor for speed**, and choose **Stride sensor** or **GPS**.

MANUAL CALIBRATION

Manual calibration can be done in two ways. You can run a distance you know, and set the correct distance in **Quick menu**. You can also set the calibration factor manually if you know the factor which gives you accurate distance.

SET CORRECT LAP DISTANCE

To calibrate the stride sensor manually by setting correct lap distance, choose **Settings > Sport profiles > Running> Stride sensor > Calibration > Manual > Set correct lap distance**

- Start a lap, and run a distance you know that is at least 400 meters, and when you are finished set the correct lap distance. **Calibrated. Factor: xxxx** is displayed when you are done.

SET FACTOR

To calibrate the stride sensor manually by setting the factor, choose **Settings > Sport profiles > Running> Stride sensor > Calibration > Manual > Set factor**: If you already know the factor which gives you accurate distance. **Calibrated. Factor: xxxx** is displayed when you are done.

Manual calibration can also be started during a session, when the stride sensor is in use. Press and hold LIGHT to enter the **Quick menu** and then choose **Stride sensor > Calibration > Manual**.

AUTOMATIC CALIBRATION

Automatic stride sensor calibration is done based on GPS data and it happens in the background. Current pace, stride length and cumulative distance will be updated and shown correctly after the automatic calibration. Your speed is shown in gray on the display until the calibration is complete. If you manually calibrate your stride sensor later, the GPS based calibration factor will be overwritten.

The automatic calibration is performed twice, and the average of the two calibration factors is used. In your next training session, the average of your previous calibration factor and the factor obtained during that session is used.

The automatic calibration starts after 100 meters. Following criteria has to be met during the calibration distance of 500 m.

- At least 6 satellites have to be available
- Speed has to be at least 7 km/h

- Ascent and descent are less than 30 meters

When running on different surfaces (e.g. road, trail, treadmill), use a different sport profile for each of them to achieve the best calibration for each surface.

To calibrate the stride sensor automatically, choose

- **Settings > Sport profiles > Running> Stride sensor > Calibration > Automatic**

ⓘ Automatic calibration can also be started during a session, when the stride sensor is in use. Press and hold LIGHT to enter the **Quick menu** and then choose **Stride sensor > Calibration > Automatic**.

RUNNING CADENCE AND STRIDE LENGTH

Cadence* is the number of times the foot with the stride sensor* hits the ground per minute. Stride length* is the average length of one step. That is the distance between your right and left foot contacting the ground. Running speed = 2 * stride length * cadence. There are two ways to run faster: moving your legs at a higher cadence or taking longer steps. Elite long distance runners typically run with a high cadence of 85-95. On uphills, typical cadence values are lower. On downhills they are higher. Runners adjust stride length to gather speed: stride length increases as speed increases.Yet one of the most common mistakes novice runners make is over-striding. The most efficient stride length is the natural one – the one that feels most comfortable. You will run faster in races by strengthening your leg muscles so they take you forward with a longer stride.

You should also work on maximizing cadence efficiency. Cadence does not progress easily, but if properly trained, you will be able to sustain it throughout your runs and maximize your performance. To develop cadence, the nerve-muscle connection needs to be trained - and reasonably frequently. A session of cadence training a week is a good start. Incorporate some cadence work into the rest of your week. During long easy runs, you could include some faster cadence every now and then. A good way of improving stride length is to undertake specific strength work, like running hills, running in soft sand, or running up steps. A six-week training period including strength work should result in noticeable improvements in stride length, and if combined with some faster leg speed work (such as short strides at best 5km pace), noticeable improvements should be seen in overall speed, as well.

POLAR SPEED SENSOR *BLUETOOTH*® SMART

PAIR A SPEED SENSOR WITH V800

Make sure the speed sensor has been correctly installed. For more information on installing the speed sensor refer to the user manual of the speed sensor.

There are two ways to pair a speed sensor with your V800:

1. Press START in time view to enter pre-training mode.
2. V800 starts searching for your speed sensor. Rotate the wheel a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
3. The device ID **Pair Polar SPD xxxxxxxx** is displayed. Choose **Yes**.

4. **Pairing completed** is displayed when the pairing is complete.
5. **Sensor linked to:** is displayed. Choose **Bike 1** or **Bike 2**. Confirm with START.
6. **Set wheel size** is displayed. Set the size and press START.

or

1. Go to **General Settings > Pair and sync > Pair new device** and press START.
2. V800 starts searching for the speed sensor. Rotate the wheel a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
3. Once the speed sensor is found, **Polar SPD xxxxxxxx** is displayed.
4. Press START, **Pairing** is displayed.
5. **Pairing completed** is displayed when the pairing is complete.
6. **Sensor linked to:** is displayed. Choose **Bike 1** or **Bike 2**. Confirm with START.
7. **Set wheel size** is displayed. Set the size and press START.

MEASURING WHEEL SIZE

Wheel size settings are a prerequisite for correct cycling information. There are two ways of determining the wheel size of your bike:

Method 1

Look for the diameter in inches or in ETRTO printed on the wheel. Match it to the wheel size in millimeters in the right column of the chart.

ETRTO	Wheel size diameter (inches)	Wheel size setting (mm)
25-559	26 x 1.0	1884
23-571	650 x 23C	1909
35-559	26 x 1.50	1947
37-622	700 x 35C	1958
52-559	26 x 1.95	2022
20-622	700 x 20C	2051
52-559	26 x 2.0	2054
23-622	700 x 23C	2070
25-622	700 x 25C	2080
28-622	700 x 28	2101
32-622	700 x 32C	2126

ETRTO	Wheel size diameter (inches)	Wheel size setting (mm)
42-622	700 x 40C	2189
47-622	700 x 47C	2220

Wheel sizes on the chart are advisory as wheel size depends on the wheel type and air pressure.

Method 2

- Measure the wheel manually for the most accurate result.
- Use the valve to mark the point where the wheel touches the ground. Draw a line on the ground to mark that point. Move your bike forward on a flat surface for one complete rotation. The tire should be perpendicular to the ground. Draw another line on the ground at the valve to mark a full rotation. Measure the distance between the two lines.
- Subtract 4 mm to account for your weight on the bike to get your wheel circumference.

POLAR CADENCE SENSOR *BLUETOOTH*® SMART

PAIR A CADENCE SENSOR WITH V800

Make sure the cadence sensor has been correctly installed. For more information on installing the cadence sensor refer to the user manual of the cadence sensor.

There are two ways to pair a cadence sensor with your V800:

1. Press START in time view to enter pre-training mode.
2. V800 starts searching for your cadence sensor. Rotate the crank a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
3. The device ID **Pair Polar CAD xxxxxxxx** is displayed. Choose **Yes**.
4. **Pairing completed** is displayed when the pairing is complete.
5. **Sensor linked to:** is displayed. Choose **Bike 1** or **Bike 2**. Confirm with START.

or

1. Go to **General Settings > Pair and sync > Pair new device** and press START.
2. V800 starts searching for the cadence sensor. Rotate the crank a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
3. Once the cadence sensor is found, **Polar CAD xxxxxxxx** is displayed.
4. Press START, **Pairing** is displayed.
5. **Pairing completed** is displayed when the pairing is complete.
6. **Sensor linked to:** is displayed. Choose **Bike 1** or **Bike 2**. Confirm with START.

POLAR LOOK KÉO POWER SENSOR *BLUETOOTH*® SMART

PAIR KÉO POWER WITH V800

Before pairing Kéo Power make sure you have installed the it correctly. For information on mounting the pedals and installing the transmitters see the Polar LOOK Kéo Power user manual that came in the product box or the video tutorial.

Both transmitters need to be paired one at a time, therefore you have to perform the pairing twice when taking Kéo Power into use. After pairing the first transmitter, you can immediately pair the second one by selecting it from the list. Check the device ID can found on the backside of each transmitter to make sure both transmitters have been paired.

There are two ways to pair Keó Power with your V800:

1. Press START in time view to enter pre-training mode.
2. Rotate the cranks to wake up the transmitters.
3. The device ID **Pair Polar PWR xxxxxxxx** is displayed. Choose **Yes**.
4. **Pairing completed** is shown when you are done.

or

1. Go to **General Settings > Pair and sync > Pair new device** and press START.
2. Rotate the cranks to wake up the transmitters. V800 starts searching for Kéo Power.
3. Once the it is found, **Polar PWR xxxxxxxx** is displayed.
4. Press START, **Pairing** is displayed.
5. **Pairing completed** is displayed when you are done.

POWER SETTINGS ON V800

Adjust the power settings to best suit your training needs. Edit the power settings in **Settings > Sport profiles**, and choose the profile you want to edit, and choose **Bike power settings**.

In the **Bike power settings** you'll find:

- **Power view**: Choose **Watts (W)**, **Watts/kg (W/kg)** or **% of FTP**.
- **Power, rolling average**: Set how frequently data points of your power are recorded. Choose 1, 3, 5,10, 15, 30 or 60 seconds.
- **Set FTP value**: Set your FTP value. The setting range is 60 to 600 watts.
- **Check power zone limits**: Check your power zone limits.

CALIBRATE KÉO POWER

Calibrate Kéo Power before starting your session. V800 calibrates itself automatically each time the transmitters wake up and V800 is found. The calibration takes a couple of seconds.

Training temperature has an effect on the calibration accuracy, so make sure your bike's temperature has become stable before you start the offset calibration.

To calibrate Kéo power:

1. Wake up the transmitters by rotating the cranks and choose pre-training mode on your V800 to start the calibration.
2. Keep the bike upright and cranks in place until calibration is completed.

To ensure the calibration is done properly:

- Do not put any weight on the pedals during calibration.
- Do not interrupt the calibration.

When the calibration is complete a green LED will blink on the transmitters, and you can start your session.

IMPORTANT INFORMATION

CARING FOR YOUR V800

Like any electronic device, Polar V800 should be treated with care. The suggestions below will help you fulfill guarantee obligations and enjoy this product for many years to come.

V800

Keep your training device clean. Use a damp paper towel to wipe dirt from the training device. To maintain the water resistance, do not wash the training device with a pressure washer. Never use alcohol or any abrasive material such as steel wool or cleaning chemicals.

After each time of using the USB port of the training device, check visually that there is no hair, dust or other dirt on the connector. Gently wipe to remove any dirt from the connector pins by using a dry cleaning cloth (like one used to clean glass surfaces). A toothpick can be used to remove hair, dust or other dirt from the connector cavity. Rinse the USB connector with lukewarm water after each session.

The combined impact of moisture and intense abrasion may cause a darker color to come off clothing possibly staining the blue-colored V800.

Operating temperatures are -10 °C to +50 °C / +14 °F to +122 °F.

HEART RATE SENSOR

Connector: Detach the connector from the strap after every use and dry the connector with a soft towel. Clean the connector with a mild soap and water solution when needed. Never use alcohol or any abrasive material (e.g. steel wool or cleaning chemicals).

Strap: Rinse the strap under running water after every use and hang to dry. Clean the strap gently with a mild soap and water solution when needed. Do not use moisturizing soaps, because they can leave residue on the strap. Do not soak, iron, dry clean or bleach the strap. Do not stretch the strap or bend the electrode areas sharply.

ⓘ Check the washing instructions on the label of the strap.

STRIDE SENSOR *BLUETOOTH*® SMART, SPEED SENSOR *BLUETOOTH*® SMART AND CADENCE SENSOR *BLUETOOTH*® SMART

Clean the sensors with a mild soap and water solution and rinse them with clean water. To maintain the water resistance, do not wash the sensors with a pressure washer. Do not immerse the speed sensor, cadence sensor or stride sensor in water. Never use alcohol or any abrasive material such as steel wool or cleaning chemicals. Avoid hard hits to the sensors, as these may damage the sensor units.

STORING

Keep your training device and sensors in a cool and dry place. Do not keep them in a damp environment, in non-breathable material (a plastic bag or a sports bag) nor with conductive material (a wet towel). Do not expose the training device to direct sunlight for extended periods, such as by leaving it in a car or mounted on the bike mount.

It is recommended to store the training device partially or fully charged. The battery slowly loses its charge when it is stored. If you are going to store the training device for several months, it is recommended to recharge it after a few months. This will prolong the battery lifetime.

Dry and store the strap and the connector separately to maximize the heart rate sensor battery lifetime. Keep the heart rate sensor in a cool and dry place. To prevent snap oxidation, do not store the heart rate sensor wet in non-breathing material, such as a sports bag. Do not expose the heart rate sensor to direct sunlight for extended periods

SERVICE

During the two-year guarantee/warranty period we recommend that you have service done by an authorized Polar Service Center only. The warranty does not cover damage or consequential damage caused by service not authorized by Polar Electro. For further information, see Limited International Polar Guarantee.

For contact information and all Polar Service Center addresses, visit www.polar.com/support and country-specific websites.

Register your Polar product at http://register.polar.fi/ to ensure we can keep improving our products and services to better meet your needs.

The username for your Polar Account is always your email address. The same username and password are valid for Polar product registration, Polar Flow web service and app, Polar discussion forum and newsletter registration.

TECHNICAL SPECIFICATION

V800

Battery type:	350 mAh Li-pol rechargeable battery
Operating time:	Up to 13 h (continuous training) with heart rate and normal GPS recording, up to 50 h (continuous training) in GPS power save mode with heart rate, approx. 30 days in time mode
Operating temperature:	-10 °C to +50 °C / 14 °F to 122 °F
Training computer materials:	ABS + GF, PC/ABS plastic alloy, Aluminum alloy, Stainless steel, Gorilla glass window
Wrist strap and buckle materials:	Thermoplastic polyurethane,Stainless steel, Aluminum alloy
Watch accuracy:	Better than ± 0.5 seconds / day at 25 °C / 77 °F temperature
GPS accuracy:	Distance ±2%, speed ±2 km/h
Altitude resolution:	1 m
Ascent/Descent resolution:	5 m
Maximum altitude:	9000 m / 29525 ft
Sample rate:	1 s in normal GPS recording , 60 s in GPS power save mode
Accuracy of heart rate monitor:	± 1% or 1 bpm, whichever larger. Definition applies to stable conditions.
Heart rate measuring range:	15-240 bpm
Current speed display range:	(0-36 km/h or 0-22.5 mph (when measuring speed with Polar stride sensor) (0-127 km/h or 0-79 mph (when measuring speed with Polar speed sensor) (0-399 km/h 247.9 mph (when measuring speed with integrated GPS)
Water resistance:	30 m
Memory capacity:	60 h training with GPS and heart rate

	depending on your language settings
Display resolution:	128 x 128

H7 HEART RATE SENSOR

Battery life:	200 h
Battery type:	CR 2025
Battery sealing ring:	O-ring 20.0 x 1.0 Material FPM
Operating temperature:	-10 °C to +50 °C/14 °F to 122 °F
Connector material:	Polyamide
Strap material:	38% Polyamide, 29% Polyurethane, 20% Elastane, 13% Polyester
Water resistance:	30 m

Uses Bluetooth® Smart wireless technology and GymLink transmission.

POLAR FLOWSYNC SOFTWARE AND USB CABLE

To use FlowSync software you need a computer with Microsoft Windows or Mac OS X operating system with an internet connection and a free USB port for USB cable.

FlowSync is compatible with the following operating systems:

Computer operating system	32-bit	64-bi
Windows XP	X	
Windows 7	X	X
Windows 8	X	X
Mac OS X 10.6	X	X
Mac OS X 10.7	X	X
Mac OS X 10.8	X	X
Mac OS X 10.9	X	X

POLAR FLOW MOBILE APPLICATION COMPATIBILITY

- iPhone 4S or later

The Polar V800 training computer applies the following patented technologies, among others:

- OwnIndex® technology for Fitness test.

WATER RESISTANCE

Water resistance of Polar products is tested according to International IEC 60529 IPX7 (1m, 30min, 20ºC). Products are divided into four different categories according to water resistance. Check the back of your Polar product for the water resistance category and compare it to the chart below. Please note that these definitions do not necessarily apply to products of other manufacturers.

Marking on case back	Water resistant characteristics
Water resistant IPX7	Not suitable for bathing or swimming. Protected against wash splashes and raindrops. Do not wash with a pressure washer.
Water resistant	Not suitable for swimming. Protected against wash splashes, sweat, rain-drops etc. Do not wash with a pressure washer.
Water resistant **30 m**/50 m	Suitable for bathing and swimming
Water resistant 100 m	Suitable for swimming and snorkeling (without air tanks)

BATTERIES

The Polar V800 has an internal, rechargeable battery. Rechargeable batteries have a limited number of charge cycles. You can charge and discharge the battery over 300 times before a notable decrease in its capacity. The number of charge cycles also varies according to use and operating conditions. Do not charge the V800 battery when it is wet.

At the end of the working life of the product Polar encourages you to minimize possible effects of waste on the environment and human health by following local waste disposal regulations and, where possible, utilizing separate collection of electronic devices. Do not dispose of this product as unsorted municipal waste.

The Polar H7 heart rate sensor has a user changeable battery. To change the battery yourself, please follow the instructions carefully as instructed in See "Changing Heart Rate Sensor Battery" on page 91

The batteries for the speed sensor *Bluetooth* Smart® , and cadence sensor *Bluetooth* Smart® cannot be replaced. Polar has designed the sensors to be sealed in order to maximize mechanical longevity and reliability. The sensors have long-life batteries inside. To purchase a new sensor contact your authorized Polar Service Center or retailer.

For battery information of the Polar stride sensor *Bluetooth* Smart®, consult the user manual for the product in question.

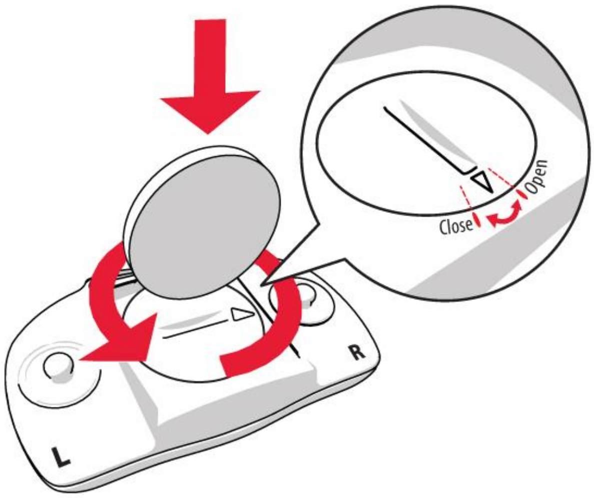
Keep the batteries away from children. If swallowed, contact a doctor immediately. Batteries should be disposed of properly according to local regulations.

CHANGING HEART RATE SENSOR BATTERY

To change the battery of the heart rate sensor yourself, carefully follow the instructions below:

When changing the battery, make sure the sealing ring is not damaged, in which case you should replace it with a new one. You can purchase the sealing ring/battery kits at well-equipped Polar retailers and authorized Polar Services. In the USA and Canada, the additional sealing rings are available at authorized Polar Service Centers. In the USA the sealing ring/battery kits are also available at www.shoppolar.com.

When handling a new, fully charged battery, avoid clasp-like contact, i.e. simultaneously from both sides, with metal or electrically conducting tools, like tweezers. This may short circuit the battery, causing it to discharge more rapidly. Typically, short circuiting does not damage the battery, but it may decrease the capacity and the lifetime of the battery.



1. Using a coin, open the battery cover by turning it counterclockwise to OPEN.
2. Insert the battery (CR 2025) inside the cover with the positive (+) side against the cover. Make sure the sealing ring is in the groove to ensure water resistance.
3. Press the cover back into the connector.
4. Use the coin to turn the cover clockwise to CLOSE.

⚠ Danger of explosion if the battery is replaced with wrong type.

PRECAUTIONS

The Polar V800 training device shows your performance indicators. The training device is designed to indicate the level of physiological strain and recovery during and after an exercise session. It measures heart rate, speed and distance. It also measures running cadence when used with Polar stride sensor *Bluetooth*® Smart and cycling cadence when used with a Polar cadence sensor *Bluetooth*® Smart . No other use is intended or implied.

The training device should not be used for obtaining environmental measurements that require professional or industrial precision.

INTERFERENCE DURING TRAINING

Electromagnetic Interference and Training Equipment

Disturbance may occur near electrical devices. Also WLAN base stations may cause interference when training with the training device. To avoid erratic reading or misbehavior, move away from possible sources of disturbance.

Training equipment with electronic or electrical components such as LED displays, motors and electrical brakes may cause interfering stray signals. To solve these problems, try the following:

1. Remove the heart rate sensor strap from your chest and use the training equipment as you would normally.
2. Move the training device around until you find an area in which it displays no stray reading or does not flash the heart symbol. Interference is often worst directly in front of the display panel of the equipment, while the left or right side of the display is relatively free of disturbance.
3. Put the heart rate sensor strap back on your chest and keep the training device in this interference-free area as much as possible.

If the training device still does not work with the training equipment, it may be electrically too noisy for wireless heart rate measurement. For further information, www.polar.com/support.

Parts of V800 are magnetic. It may attract metallic materials and it's magnetic field may interfere with a compass. To avoid interference, it is recommended to wear your compass on one arm (at the level of your chest) and your V800 on the other arm's wrist. Do not place credit cards or other magnetic storage media near V800, because information stored on them may be erased.

MINIMIZING RISKS WHEN TRAINING

Training may include some risk. Before beginning a regular training program, it is recommended that you answer the following questions concerning your health status. If you answer yes to any of these questions, we recommend that you consult a doctor before starting any training program.

- Have you been physically inactive for the past 5 years?
- Do you have high blood pressure or high blood cholesterol?
- Are you taking any blood pressure or heart medication?
- Do you have a history of breathing problems?
- Do you have symptoms of any disease?
- Are you recovering from a serious illness or medical treatment?
- Do you use a pacemaker or other implanted electronic device?

- Do you smoke?
- Are you pregnant?

Note that in addition to training intensity, medications for heart conditions, blood pressure, psychological conditions, asthma, breathing, etc., as well as some energy drinks, alcohol, and nicotine may also affect heart rate.

It is important to be sensitive to your body's responses during training. **If you feel unexpected pain or excessive fatigue when training, it is recommended that you stop the training or continue at a lighter intensity.**

Note! If you are using a pacemaker, you can use Polar training computers. In theory interference to pacemaker caused by Polar products should not be possible. In practice no reports exist to suggest anyone ever having experienced interference. We cannot however issue an official guarantee on our products' suitability with all pacemakers or other implanted devices due to the variety of devices available. If you have any doubts, or if you experience any unusual sensations while using Polar products, please consult your physician or contact the implanted electronic device manufacturer to determine safety in your case.

If you are allergic to any substance that comes into contact with your skin or if you suspect an allergic reaction due to using the product, check the listed materials in Technical Specifications. To avoid any skin reaction to the heart rate sensor, wear it over a shirt, but moisten the shirt well under the electrodes to ensure flawless operation.

Your safety is important to us. The shape of the Polar stride sensor *Bluetooth*® Smart is designed to minimize the possibility of it getting caught in something. In any case, be careful when running with the stride sensor in brushwood, for example.

The combined impact of moisture and intense abrasion may cause a black color to come off the heart rate sensor's surface, possibly staining light-colored clothes. If you use perfume or insect repellent on your skin, you must ensure that it does not come into contact with the training device or the heart rate sensor.

WARNING: This product and its packaging contain chemicals known to the State of California to cause cancer, birth defects or reproductive harm. This notice is provided in accordance with California's Proposition 65. More information: http://www.polar.com/regulatory_information

LIMITED INTERNATIONAL POLAR GUARANTEE

- This guarantee does not affect the consumer's statutory rights under applicable national or state laws in force, or the consumer's rights against the dealer arising from their sales/purchase contract.
- This limited Polar international guarantee is issued by Polar Electro Inc. for consumers who have purchased this product in the USA or Canada. This limited Polar international guarantee is issued by Polar Electro Oy for consumers who have purchased this product in other countries.
- Polar Electro Oy/Polar Electro Inc. guarantees the original consumer/purchaser of this device that the product will be free from defects in material or workmanship for two (2) years from the date of purchase.
- The receipt of the original purchase is your proof of purchase!

- The guarantee does not cover the battery, normal wear and tear, damage due to misuse, abuse, accidents or non-compliance with the precautions; improper maintenance, commercial use, cracked, broken or scratched cases/displays, armband, elastic strap and Polar apparel.
- The guarantee does not cover any damage/s, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the product.
- Items purchased second hand are not covered by the two (2) year warranty, unless otherwise stipulated by local law.
- During the guarantee period, the product will be either repaired or replaced at any of the authorized Polar Service Centers regardless of the country of purchase.

Guarantee with respect to any product will be limited to countries where the product has been initially marketed.

CE 0537

This product is compliant with Directives 93/42/EEC, 1999/5/EC and 2011/65/EU. The relevant Declaration of Conformity is available at www.polar.com/support

The relevant Declaration of Conformity is available at www.polar.com/en/regulatory_information.

This crossed out wheeled bin marking shows that Polar products are electronic devices and are in the scope of Directive 2012/19/EU of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE) and batteries and accumulators used in products are in the scope of Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators. These products and batteries/accumulators inside Polar products should thus be disposed of separately in EU countries. Polar encourages you to minimize possible effects of waste on the environment and human health also outside the European Union by following local waste disposal regulations and, where possible, utilize separate collection of electronic devices for products, and battery and accumulator collection for batteries and accumulators.

This marking shows that the product is protected against electric shocks.

Polar Electro Oy is a ISO 9001:2008 certified company.

DISCLAIMER

- The material in this manual is for informational purposes only. The products it describes are subject to change without prior notice, due to the manufacturer's continuous development program.
- Polar Electro Inc./Polar Electro Oy makes no representations or warranties with respect to this manual or with respect to the products described herein.
- Polar Electro Inc./Polar Electro Oy shall not be liable for any damages, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the use of this material or the products described herein.

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